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A. H. Anderson's Excavations at Rio Frio Cave E, British Honduras (Belize)

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DAVID M. PENDERGAST

A. H. Anderson's Excavations at Rio Frio Cave E, British Honduras (Belize)

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Introduction

With the death of A. H. Anderson in 1967, British Honduras (Belize) lost its first Archaeological Commissioner, and many of the projects on which he had been at work until failing health intervened seemed destined never to be reported. As I had known Hamilton Anderson for some years, and had either travelled with him to sites he had worked or at least discussed data and objects from such excavations, I decided to salvage what I could of the work, though much of the information regarding excavations had been destroyed when Hamilton's notes were lost in Hurricane Hattie in 1961. Apart from post-hurricane work at Xunantunich (Benque Viejo), most of Hamilton's excavations must now be dealt with through his diaries, fragmentary notes and plans, and the collections which he accumulated, though these last have suffered, like the other sources of information, from the ravages of the hurricane and, at a later time, from theft of materials from storage. In any case, a considerable body of artifacts and data constituted part of the heritage Hamilton left to the country and to Mayanists, and among these materials the collection from Rio Frio Cave E is one of the most important units. In this report I have drawn together information from several sources to produce as complete a picture as is now possible of the work which Hamilton undertook at the cave in 1959. The description of the site and its setting is a melange of Hamilton's notes, his brief published reference to his work there (Anderson, 1962, pp. 329–331), and my own observations made during a trip to the cave with him in 1961 (Pendergast, 1962, p. 198). The remainder of the report is the result of work which I carried out in 1968 and 1969 during and after the excavation seasons at Altun Ha, for Hamilton had not been able to reconstruct and analyze the pottery prior to his final illness. Hence the ceramic data and the conclusions are my responsibility, and Hamilton is absolved of posthumous blame for any errors which may occur therein.

Of the several people who have helped me in the preparation of this report, the one to whom I am most indebted is Mrs. Irma Anderson, who searched through her late husband's files in England to provide me with photographs, a plan and measurements, and portions of a diary kept during the work at the cave. All of the drawings, including redrafting of Hamilton's preliminary plan of the cave, were made by Mr. Claus Breede, Scientific Illustrator in the Office of the Chief Archaeologist of the museum. Pottery colour determinations were made by my wife, Esther, who performs this rather thankless task for all of the ceramics resulting from our excavations. The material of the two stone artifacts remaining from a collection recovered in the cave was identified by Dr. Robert I. Gait, Assistant Curator in the Mineralogy Department of the museum, while the guesses as to materials of other objects from the group, no longer available for study, are mine. I cannot now make the acknowledgements which Hamilton would have done if he had prepared this report, for none of the extant records indicates the full range of assistance which he enjoyed during the investigations. Messrs. Ford Young and

Frank Norris, American businessmen and amateur speleologists resident in Belize, accompanied Hamilton on his first and second trips to Rio Frio E, and on the latter occasion he had the assistance of four Maya men from the village of Succotz, near Benque Viejo (Xunantunich), among whom were Elias Alfaro, Eduardo Cocom, and David Chan, while the fourth may have been Hamilton's long-time foreman and companion Ascencion Alfaro. To all of these, and probably to members of the Forestry Department staff at the Augustine station and others whom I am unable to list here, Hamilton would, I am sure, have given his thanks.

The Site

SETTING

Rio Frio E lies approximately 3.75 km. northeast of the Augustine forest station, or about 2 km. northeast of caves A, B, and C, described by Mason (1928) at about Lat. 17°00′ N. and Long. 89°02′ W., at an elevation of 1200 feet (Fig. 1). The cave is near the top of a low hill or ridge at the foot of which, some 80 metres from the cave entrance, is a small tributary of the Rio Frio. The river itself, which is only slightly more than half a kilometre from the cave, flows out of the Eastern Branch of the Belize River, which heads in the Maya Mountains and, known as the Macal, forms the division between the granitic Mountain Pine Ridge and the limestone of the Chiquibul, flowing northward to join the Western Branch or Mopan near San Ignacio (Fig. 2). The path of the Eastern Branch of the Belize and the Macal very probably played a part in determining the history of Rio Frio E, for the physical link between the Belize River Valley-Xunantunich zone and the Rio Frio area is reflected in the archaeological materials from the cave, while the separation between the Mountain Pine Ridge-Vaca Plateau region and the Chiquibul farther to the south seems also to have archaeological as well as physiographic significance.

The Rio Frio area is itself in a borderland zone, lying in a southwestward projection of limestone forest extending from the edge of the Vaca Plateau into the granitic, pine-forested Mountain Pine Ridge, which seems not to have been utilized by the ancient Maya except as a source for raw materials, though there is one possibly ancient small structure in the pine ridge not far from Augustine (Bullard, 1963). The middle stretch of the Rio Frio flows through a small area of pine ridge, and it is on the western edge of this area that Rio Frio E lies. An understanding of the rather complex geological history of the region can be gained by consulting the work of Wright *et al.* (1959, pp. 22-28), which also provides information on the forest encountered in the area of the cave. The bush in the vicinity of Rio Frio E is deciduous seasonal forest, 70-100 feet high, falling into category 2d of Wright *et al.* (1959, p. 289), *Chiquebul-Cherry forest*, characterized by abundant ramon (*Brosimium alicastrum* Sw.), bullhoof (*Celtis hottlei* Standl.), sapote (*Achras zapota* L.), copal (*Protium copal* [Schlect & Cham.] Engl.), cedar (*Cedrela mexicana* Roem.), and yaxnik or fiddlewood (*Vitex gaumeri* Greenm.), as well as the two species (*Achras chicle* Pittier and *Allophyllus cominia* [L.] Swartz. respectively) which give the forest its name, plus the economically mportant mahogany (*Swietenia macrophylla* King). The bush in the mmediate environs of the cave, probably now extensively scarred by Hurricane Hattie, was in 1961 closer to the 70-foot than to the 100-foot height range, and marked by a somewhat less open understorey than was

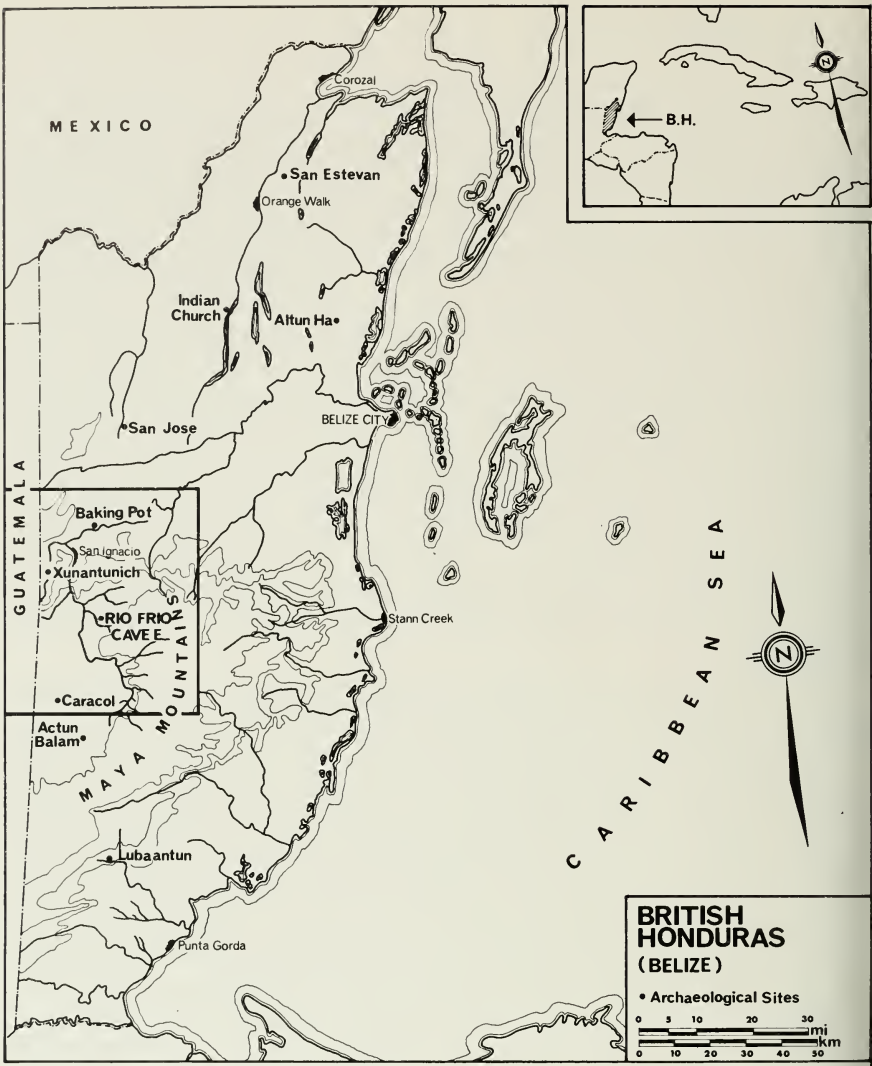
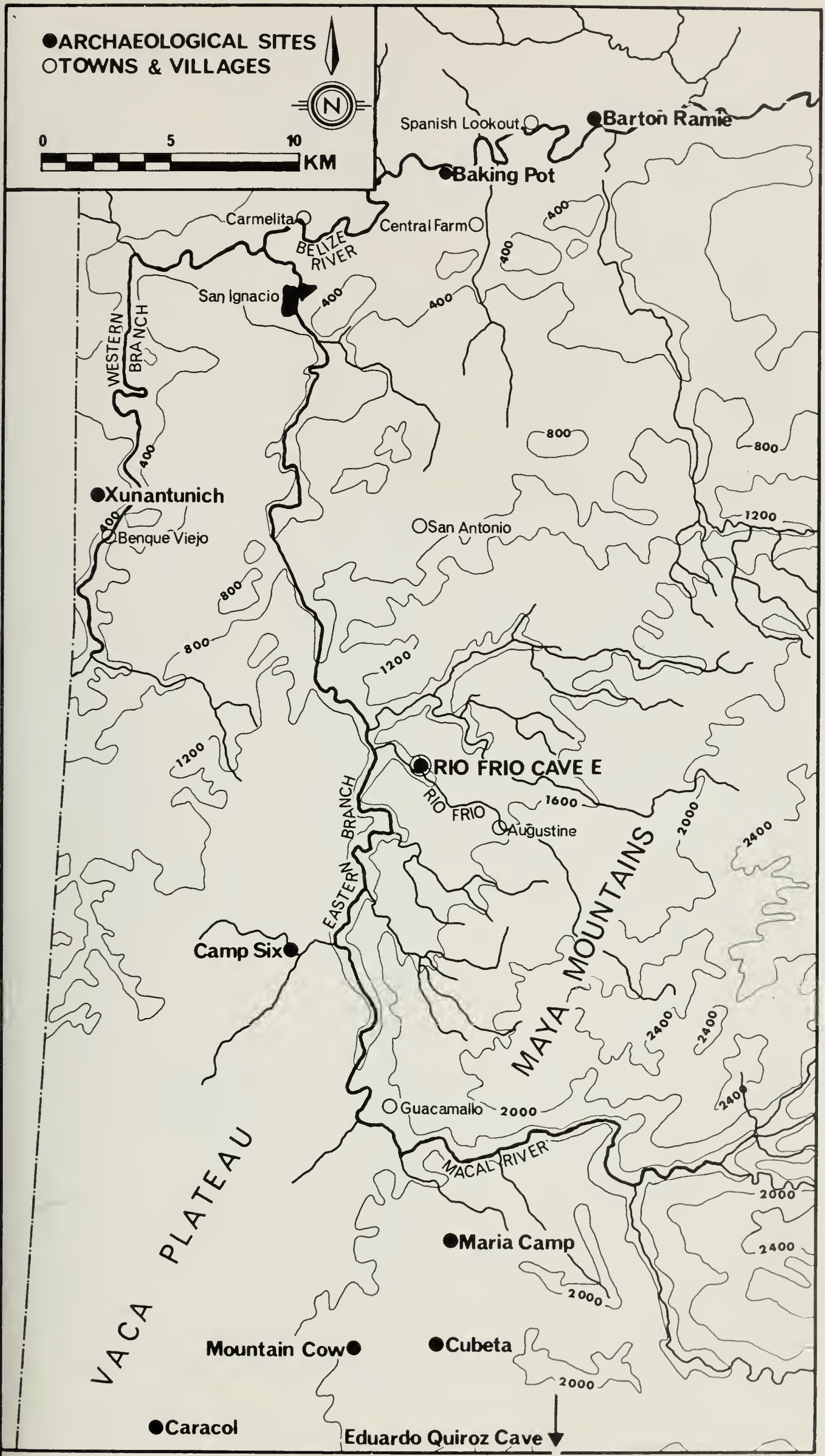


Fig. 1 Map of British Honduras (Belize), showing location of Rio Frio E, other archaeological sites, and principal modern settlements. The heavy line encloses the area seen at enlarged scale in Fig. 2. Inset: the location of Belize in southern Mesoamerica.

Fig. 2 Map of the central and south-central portions of the Cayo District, showing the relationship of Rio Frio E to the Belize River drainage system, and to other archaeological sites.


●ARCHAEOLOGICAL SITES
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Spanish Lookout
Barton Ramie
Baking Pot
Carmelita
Central Farm
BELIZE RIVER
San Ignacio
WESTERN BRANCH
Xunantunich
Benque Viejo
San Antonio
RIO FRIO CAVE E
RIO FRIO
Augustine
EASTERN BRANCH
MAYA MOUNTAINS
Camp Six
Guacamallo
MACAL RIVER
VACA PLATEAU
Maria Camp
Mountain Cow
Cubeta
Caracol
Eduardo Quiroz Cave
400
800
1200
1600
2000
2400

characteristic of much of the limestone forest in the southern Cayo District, with rather thin and open bush cover on the slope in which the cave lies. As far as I know, no one has visited Rio Frio E since the hurricane, so the effects of the awesome winds on the vegetation and on the ease of locating and entering the cave are unknown. The presence of a source of potable water near the cave might have made it attractive for habitation, but the soils of the area are generally skeletal, though Chacalte clay, the traveller's friend, occurs on level areas in depths sufficient to mire vehicles with ease.

There are no recorded surface sites in the immediate vicinity of the Rio Frio caves. The closest known centre is Camp Six, 9 km. southwest of Rio Frio E (Thompson, 1931, pp. 225, 228, 279-283), though other caves are reported from as little as 5 km. away. Most archaeological information on the southern Cayo District comes from the Chiquibul region, where investigations have included work at Tzimin Kax or Mountain Cow (Thompson, 1931), Caracol (Satterthwaite, 1950, 1954 a, b; Anderson, 1958, 1959), Las Cuevas (Digby, 1958) and Maria Camp (Pendergast, 1965), as well as the cave sites of Awe Cave (Digby, 1958), Actun Balam (Pendergast, 1969), and Eduardo Quiroz (Pendergast, 1964 and Occasional Paper 21, in press). These sites lie 21 to 40 km. south of Rio Frio E, while at equal or lesser distances to the north and northwest are Barton Ramie (Willey *et al.,* 1965) and Baking Pot (Bullard and Bullard, 1965), some 25 km. away, and Xunantunich or Benque Viejo (Thompson, 1942) only 16 km. from the cave. The ceramics from Rio Frio E have been compared with those of all of these sites from which data are available except Tzimin Kax (see below), and with San José (Thompson, 1939) and Uaxactun (Smith, 1955), both of which lie at much greater distances from the area of our immediate concern. If, as I have indicated in other reports, the Chiquibul is a little-known area archaeologically, then by comparison the Rio Frio region must be classified, except for the material reported by Mason and in the present study, as pure archaeological *terra incognita.*

SITE DESCRIPTION

The entrance, which faces south, is in the shape of a high, broad arch, with little or no human modification of the surface in front of the mouth. Within, the floor slopes gently downward to a point 19 metres from the mouth, where a huge stalactite column divides the opening, seeming to support the ceiling (Plates 1 and 2). While this outer area is wet, the main chamber is generally dry in comparison to other caves of the region, and Anderson (1962, p. 330) suggests that the cave was dry when used by the ancient Maya. The cave is essentially a single large chamber approximately 158 metres long, with a maximum width of 42 metres, tapering to a rounded terminus at the north end. Ceiling height is fairly uniform at about 12 metres over the length of the main chamber, dropping to about 2

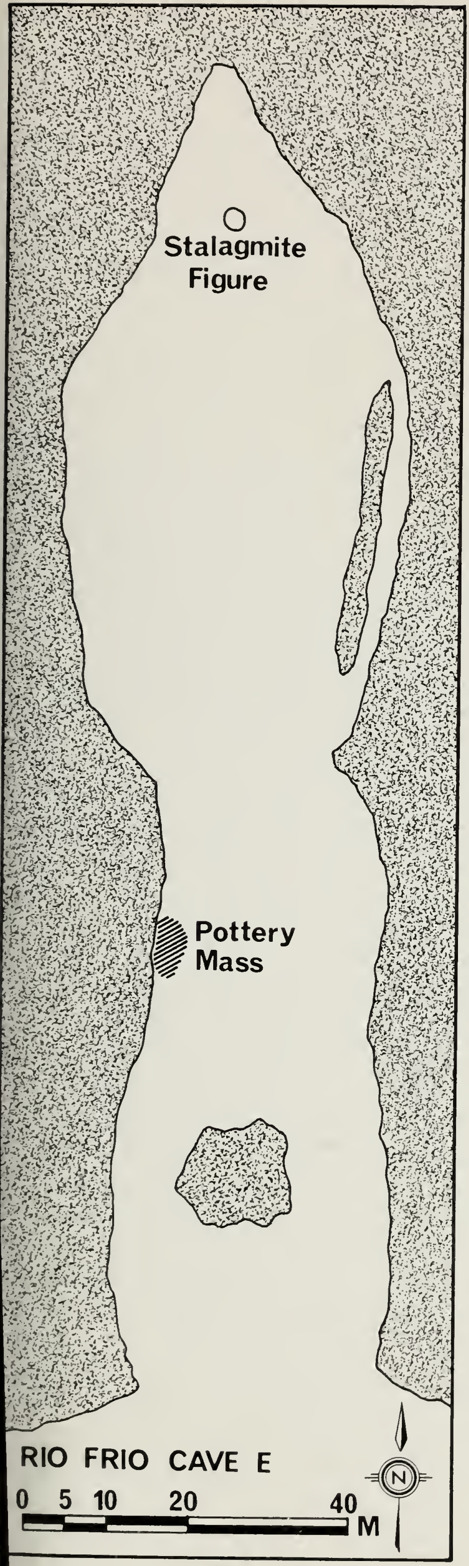


Fig. 3 Plan of Rio Frio E. showing location of principal archaeological features.

metres at the inner end, where there is a small alcove, possibly a connection with another chamber, but so thickly spined with small stalactites that exploration was impossible. The floor of the main chamber is level, and has the appearance of having been artificially smoothed (Plate 2); it consists of loose, powdery brown soil, with almost no sherd or other cultural content. At the east side are small areas set apart from the main chamber by rockfall, which likewise have few or no sherds on their floor surfaces. The sole archaeological material at floor level in the cave consists of a huge mass of sherds, in many placed packed so thickly that there is almost no soil in the interstices, lying along the west chamber wall about one-third of the way from entrance to inner end (Plates 5 and 6). The mass is about one metre in height at the centre, and approximately three metres in diameter, and all indications are that it consists of material removed from the chamber floor and stacked or tossed against the wall, though it is not impossible that it is a specialized dump of some sort.

The principal feature in Rio Frio E apart from the pottery mass is a huge stalagmite of unusual shape, almost certainly moved to its present position, presumably from its original growth spot in the cave. The body of the stalagmite is a somewhat irregular hemisphere, with the flat surface resting on the cave floor; atop this is a small spherical section, giving the object the appearance of a seated human figure (Plates 3 and 4). Anderson examined this unusual object closely during his first visit, and found that there was a row of eight small circular depressions down the front, accentuating the effect of a cape covering the body. He also recovered burnt wood, charcoal and sherds coated with carbonized material from a roughly circular shallow depression in front of the "head". The figure has a maximum height of 275 cm., and is 225 cm. wide and 250 cm. thick, dimensions which, together with its position just slightly west of the midline of the chamber, make it an impressive and dominating element within the cave. Anderson suggests (1962, p. 331) that the figure was treated as a deity, a possibility strengthened by the apparent presence of copal in the charcoal removed from the depression at the base of the "head"; the difficulty in assessing the relationship of this activity to the other materials in the cave lies in the absence of any indication of the time of copal burning, and for that matter of movement of the stalagmite to its present position. There is, however, a good basis for acceptance o Anderson's views regarding the pattern of activity in Rio Frio E, a matter discussed at greater length in the summary and conclusions, below.

In addition to the materials in the chamber itself, there are a number o ledges and small alcoves in the upper cave walls, especially along the wes side. Though most of these once contained archaeological material pothunting activities destroyed data on all but one alcove roughly 10 metres above the cave floor in the west wall just above the pottery mass and one at a greater height farther north in the same wall. The first o these, discovered and first entered by Ford Young (Anderson, 1962, p 330) was found to contain a number of pottery vessels (Plate 8), amon which was an olla (storage jar) which housed a group of polished ston objects, apparently placed as an offering, a situation which parallel in some respects that encountered in Chamber 6 of Eduardo Quiroz Cave (Pendergast, 1964, pp. 127–128). Whether the other alcoves and niches held similar materials or only sherds is impossible to determine, though the high alcove which escaped the pothunters' notice or was left untouched because of its inaccessibility contained several ollas (Anderson, 1962, p. 330). Neither in the niches and alcoves nor in other parts of the cave were there any signs of modification of original form through construction of masonry walls or other elements, such as is found in many caves of the Chiquibul area.

Excavation

On 11th January, 1959, Anderson visited Rio Frio E with Ford Young, shortly after the discovery of the cave was reported by a Forest Department employee. Though Anderson had not intended to undertake more than a surface investigation, the discovery of an alcove in the wall above the pottery mass prompted exploration, which was undertaken by Young, who after reaching the alcove rigged a rope which Anderson then used to join his companion. They found a low ledge which fronted the alcove, partially concealing at least six large dishes, several ollas, and one or more polychrome outcurving-side bowls. The alcove, which was found to be about 75 cm. high, 150 cm. wide, and 180 cm. deep, had some 40 cm. of bat guano on its floor, in which the vessels were partly or completely embedded. As Anderson had not come prepared for excavation, and as some pothunters' damage had already occurred in the cave, he was forced to excavate the vessels with his hands, recovering not only these but the bulk of the objects from the apparent cache. Pieces of wood and a sample of charcoal were collected in the alcove, but from beneath the guano layer and hence apparently not in direct association with any one of the vessels. The material was submitted to the British Museum for radiocarbon analysis, which yielded a date of 1120 ± 150 B.P., or A.D. 830 ± 150 (Barker and Mackey, 1960, p. 27).

Though forced to depart the cave shortly after discovery of the alcove materials, Anderson returned as soon as possible with a crew of four excavators, arriving at the site on the 20th of February. In addition to screening the deposit from the alcove, a process which yielded one more object from the offering, the men excavated a small trench into the sherd mass along the west wall. A trench just under one metre in depth was cut hrough the pile from the eastern edge, with a width of approximately one metre. The yield from this small excavation was of a dual nature: so varied as to be a ceramicist's dream, but so large as to be a nightmare. The bulk of the material consisted of sherds of ollas, many heavily blackened, ften occurring in what appeared to be intentionally stacked piles. Since herds from a single vessel were rarely found together (Anderson, 1962, . 330), and since transportation of excavated material from the cave to Anderson's Land Rover was a major problem involving a walk of about wo kilometres, the olla body sherds were sorted out and left at the site, apparently uncounted. The sample brought back to Belize City at the conclusion of the one-week operation consisted of portions of 249 vessels plus a small number of olla body fragments, saved because they appeared to be part of a vessel of which the rim was recovered intact. Though this is a small part indeed of the total mass in the cave, and probably no more than one-fiftieth of the collection from Anderson's small trench, its great variety, plus the presence of an unusually large number of major vessel sections sufficient to permit full artist's reconstruction of form and occasionally design, makes the collection a probably very good reflection of the ceramic history of Rio Frio E, and a surprisingly valuable source of information on interrelationships in the central and southern Cayo District. Anderson had only begun to clean and examine the pottery when Hurricane Hattie struck, and the destruction wrought by the storm, coupled with lack of space and time in the ensuing years, kept him from realizing his hope of putting fully on record the results of his brief investigation of the site, a task which I have had to undertake in his stead.

Ceramics

The unusual nature of the Rio Frio E deposit, coupled with the rather limited extent of Anderson's testing, has produced a ceramic sample which lacks many of the aspects encountered in other sites, including Cayo District caves. No stratigraphic relationships existed in the deposit, and the likelihood that the material had been removed from various parts of the cave and piled at the side increases the probability of extensive mixture, with dispersion of fragments of any given vessel over a large area a distinct possibility. These unusual elements of the prehistory of Rio Frio E dictate analysis of the ceramics as though they were a synchronic collection, much as was necessary in Actun Balam (Pendergast, 1969, p. 12). Despite these limitations, however, the collection is in fact a source of data of considerable significance bearing on relationships between the Rio Frio area, the caves of the Chiquibul, and the sites of the Belize River Valley and neighbouring regions.

As in the analyses of ceramics from Actun Balam and Eduardo Quiroz caves, no attempt has been made here to apply type-variety designations to the pottery, except in those cases in which comparisons reveal identity with materials already thus classified in the Belize River Valley. The difficulties inherent in application of the type-variety system to the Rio Frio E material are essentially those which affect analyses of other cave collections: the limited nature of the sample, the lack of clearcut stratigraphic information, and the paucity of data on ceramics from surface sites in the area. In the case of the Rio Frio E material, however, the inter-site relationships indicated by some vessel types minimize the problems of assessment of ceramic sphere affiliation, a matter discussed in the summary, below. Comparisons have been made between the Rio Frio E pottery and that from other caves in the southern Cayo District, as well as the collections from the Belize Valley and, where applicable, from Uaxactun. The latter two reports in particular provide additional information on spatial distribution of various pottery types discussed here. Data from Tzimin Kax (Thompson, 1931) have been omitted from the comparisons in all but one case, as parallels seem not to exist between that site and Rio Frio E, while the Maria Camp materials (Pendergast, 1965) are not included due to the small amount of ceramic data available from the site.

Pottery descriptions follow the form of those for Actun Balam and Eduardo Quiroz caves, which are in turn derived from Smith (1955) and in part from Thompson (1939, pp. 68-70). Vessel diameters, which are an average in all cases in which measurements are given for a single vessel of somewhat eccentric shape, are measured to the outside of the rim for all categories but those with restricted orifice and outflaring or outcurving lip, for which both orifice and rim diameters, as well as maximum body diameters, are given. Wall thickness is an average of measurements at various points along the rim, except where variations in thickness from rim to base appear to be significant. Thickness categories are as follows: eggshell, 0.1-0.25 cm.; thin, 0.25-0.5 cm.; medium-thick, 0.5-0.8 cm.; thick, 0.8-2.0 cm.; very thick, above 2.0 cm. Height of vessel is the maximum including base or feet, unless otherwise indicated, but the height/diameter ratios basic to shape classification are calculated using the body height exclusive of base or feet. Bowls are also distinguished from jars on the basis of surface characteristics: bowls, except for those completely unslipped, are characterized by interior slip, whether or not the exterior is slipped, while jars are uniformly without interior slip, whatever the exterior surface treatment. Vessel shapes include *bowls,* vessels with unrestricted or slightly restricted orifices and height equal to but not less than one-third of diameter; *dishes,* with similar orifice and height between one-third and one-fifth of diameter; *plates,* with similar orifice but height less than one-fifth of diameter; *vases,* with unrestricted or slightly restricted orifice, and height markedly greater than diameter; and *jars,* with restricted orifice, with or without neck and with varying rim forms, generally globular or subglobular in shape, with variable height/diameter ratios. As with any system which imposes arbitrary mechanical divisions on a body of material perhaps subdivided in entirely different ways by its manufacturers, many of the shape categories include what may well be meaningful variation, the extent of which can be judged from the illustrations.

Identification of temper materials was made by visual examination only, under a 10x lens. Grain size descriptions are essentially subjective, rather than based on specific size criteria. *Minute* denotes grains invisible to the naked eye; *very small* denotes grains barely visible to the naked eye; *small* grains are readily visible, with diameters approaching the equivalent of one-half the sherd thickness; and *large* grains are those with diameters greater than the equivalent of one-half of sherd thickness, often extending from surface to surface, and occasionally protruding from the surface. As the last three categories are relative, the actual sizes involved will vary with vessel wall thickness, though within a vessel category there is likely to be little variation, as thickness for a given shape tends to range over a fairly small span, usually less than 0.2 cm. Notations of paste hardness and fracture are based on observations made during temper analyses; paste texture, while not described in terms of grade scales, can be judged from descriptions of fracture. Colour nomenclature is that of Ridgway (1912), chosen in preference to the Munsell system for reasons set forth in the Actum Balam report (Pendergast, 1969, p. 13). Wherever possible, frequencies of the various colours are indicated by numbers in parentheses following each Ridgway colour name. Paste colours were not classified under the Ridgway system, but rather are given in unspecific terminology only. Surface colours listed are in all cases the predominant ones on a single sherd or vessel in which there is colour variation; the numerous instances of overfiring also force subjective judgements regarding intended colours, and the omission of a number of specimens from the colour listings when no such judgement can be made with anything approaching certainty.

The special nature of the Rio Frio E deposit, as well as the method of collection of the sample, give the sherd counts a relationship to vessel totals rather different from that encountered in most other sites. In virtually every case the sherd count is in effect a vessel count, as all sherds are demonstrably from different vessels; proportions of various vessel shapes or decorative motifs are, however, not significant because of the highly selected nature of the sample. In all cases in which more than one sherd of a given vessel occurs in the collection, the several fragments are counted as one, though for unslipped incensarios (censers) the possibility that the sherds may not all be from a single specimen is indicated by the listing of a sherd total in addition to the vessel count.

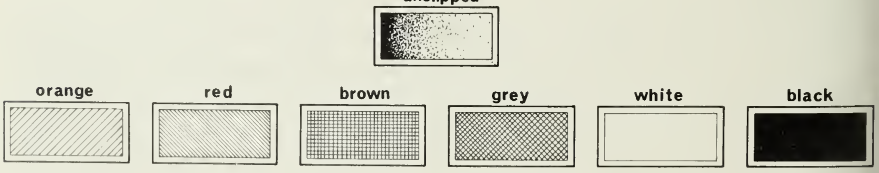
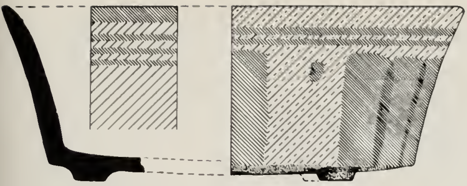


Fig. 4 Polychrome bowls

a–m: bowls, flaring or outcurving side; red and black on orange, red and black on white, red and black on cream-buff (*a*), plus specimens with decoration colours undeterminable. Interiors decorated or plain; exteriors decorated in all but one instance (*i*). Note: *d* is included for shape only, as decoration is completely eroded.



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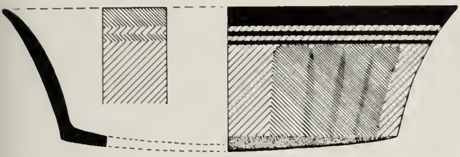

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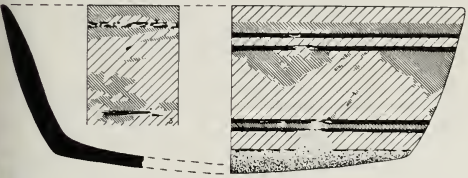

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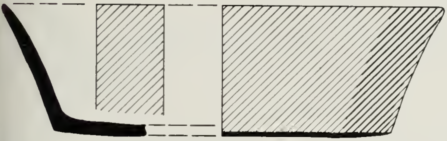

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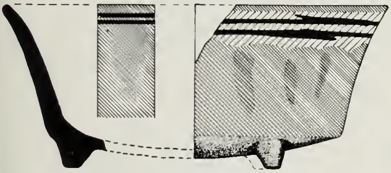

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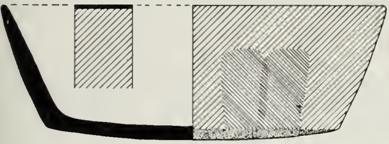

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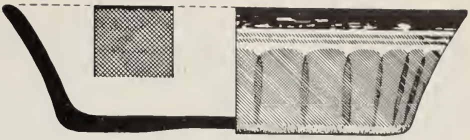

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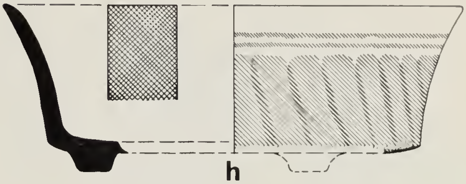

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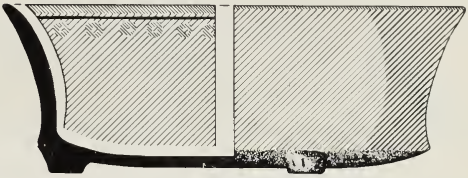

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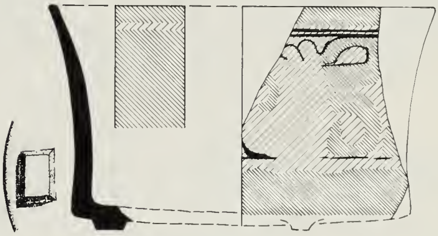

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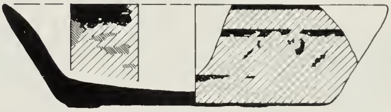

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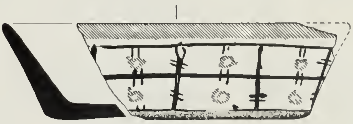

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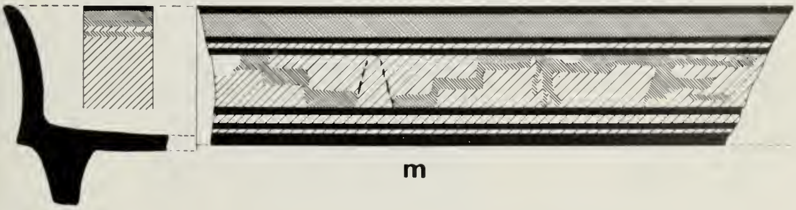

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SLIPPED WARE (223 sherds)

I. Slipped polychrome (115)

Bowl, flaring or outcurving side (80)

Illustration: Figs. 4 and 5

Form: Outcurving or occasionally flaring, medium-thick to thick sides; rounded, pointed, or slightly flattened lip; flat, slightly convex, or occasionally slightly concave base.

Size: Diameter 18.0–24.0 cm., av. 21.3 cm.; height 4.3–11.65 cm., or maximum of 11.5 cm. without inclusion of foot height, av. 7.5 cm.; thickness 0.5–1.1 cm., av, 0.7 cm.

Surface: Interior slipped, slight to high burnish; exterior slipped, moderate to very high burnish. Base, and feet where present, uniformly unslipped. Pitting and erosion common, especially in some tuff-tempered specimens; colour alteration due to overfiring occurs in 67% of the specimens.

Temper: Tuff (91.9%); tuff and calcite (6.4%); calcite (2.5%). Among the tuff-tempered sherds are several which contain so much porous material that they float on water, resembling in this respect some of the tuff-tempered redware. Whether this characteristic is the result of accident or design for specialized use is not clear.

Paste: Generally moderately hard to hard, with somewhat angular to crumbly fracture; occasionally friable. Colours: uniform buff-orange to brick-orange; uniform grey-brown, orange-brown, grey-black; laminated buff and grey; buff core grading to light grey near outer surface; dark grey core, grading to buff-orange on both surfaces; very dark grey core with buff near surfaces.

Colour: Red and black on orange, red and black on white, red and brown (possibly misfired black) on cream, red and black on cream-buff, red, orange, and black on cream-buff. Slip: Ferruginous, Apricot Buff, Apricot Orange, Mahogany Red, Verona, Cinnamon-Rufous, Mouse Gray, white. Decoration: red (Vinaceous-Rufous, English Red, Hay's Russet, Mahogany Red), brown (Warm Sepia), orange (Sanford's Brown), black (Fuscous Black, black).

Decoration: Interior, plain; rim band in black or red; rim band and one to four encircling lines or broad bands in red, black, or combinations of the two; rim band and thin black lines bordering broad red band; rim band and outline-brackets separated by lines of vertical dots in red or black; alternating red and black lines with pseudo(?)-glyph band at centre. Lower portion of interior generally undecorated. Exterior, rim plain, or with red or black band; sides decorated with one to three encircling lines in red, black, or combination, or red and black lines with dashed

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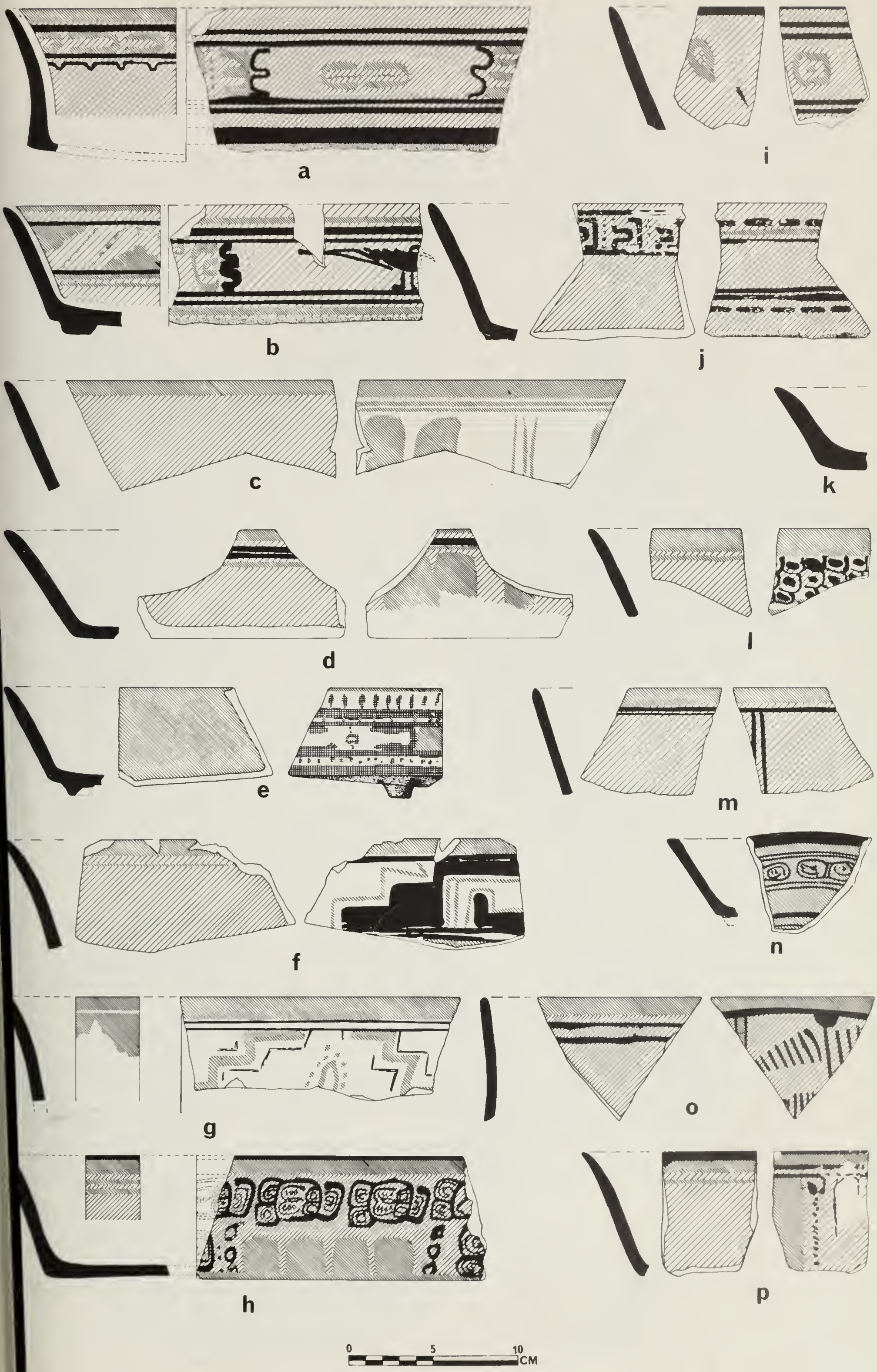
Fig. 5 Polychrome bowls

a–p: bowls, flaring to outcurving side; red and black on orange, red and black on white, red and brown (misfired black?) on cream. Interiors decorated or plain; exteriors uniformly decorated. Glyph band on exterior of *h* is probably nonfunctional, as it is simply repetition of a single glyph.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black line, or lines with vertical ticks above and below, bordering centre zone with highly varied motifs, including vertical zigzags in red and black bordered by lines of vertical black dots separating designs ranging from elongated red brackets enclosing dots to black bird motif, complex stepped frets in black and red, and brackets in brown enclosing brown circle with dots above and below; also groups of size-graded lines attached to "hand-bell" motif in black, cells enclosing black dots, bilobed motif resembling flower with centre dot, and complex curvilinear motifs, largely in red. Base marked by one to four encircling lines and basal band in red, black, or combination of the two. A second class of exterior decoration consists of rim band and one to three encircling lines or bands in red, black, or combination, with groups of parallel vertical broad red stripes, generally rounded at the top but occasionally attached to the lowest encircling line, and often overlapping, extending to vessel base. Patterns of stripes vary from continuous around vessel to groups of two or three, separated by vertical paired or triple lines in red or black or by single vertical rows of black dots. Similar but shorter red vertical round-topped stripes, separated from each other, also occur at base of one specimen, separated by one or more glyphs (non-functional?) in black, with a row of probably non-functional glyphs (same glyph repeated) above, bordered at top by broad red rim band. Also a single specimen with red rim band, below which are rectangles in black, containing red circles with two short black lines crossing each border line between two rectangles, and dependent from the top border of the upper row. At the base is an extension of the bottom border forming a basal band which runs onto the base itself. Also one specimen (Fig. 4f) with no exterior decoration except pair(s) of round-topped vertical red overlapping stripes at the base; interior has black rim band only. Plain exterior occurs in only one specimen, which has full interior decoration, and differs sharply from the remainder of the group (Fig. 4i).

Appendages: Twelve specimens have solid columnar or truncated conical feet; two have solid slab feet.

Comparative material: Vessels similar to Rio Frio E specimens are reported from Rio Frio C (Mason, 1928, figs. 25, 26), but are unknown from Chiquibul caves. The shape and decoration motifs find direct parallels in the material from Benque Viejo (Xunantunich), where they date from Benque Viejo IIIb, the middle segment of the Late Classic (Thompson, 1942, figs. 35, 39). Close kinship is also in evidence with Baking Pot (Bullard and Bullard, 1965, fig. 11e, f and plate XII) and the Barton Ramie collection, where the shape and decoration are classified as Benque Viejo Polychrome, variety unspecified, the most common of the Vinaceous Tawny Ware types of the Late Classic Spanish Lookout

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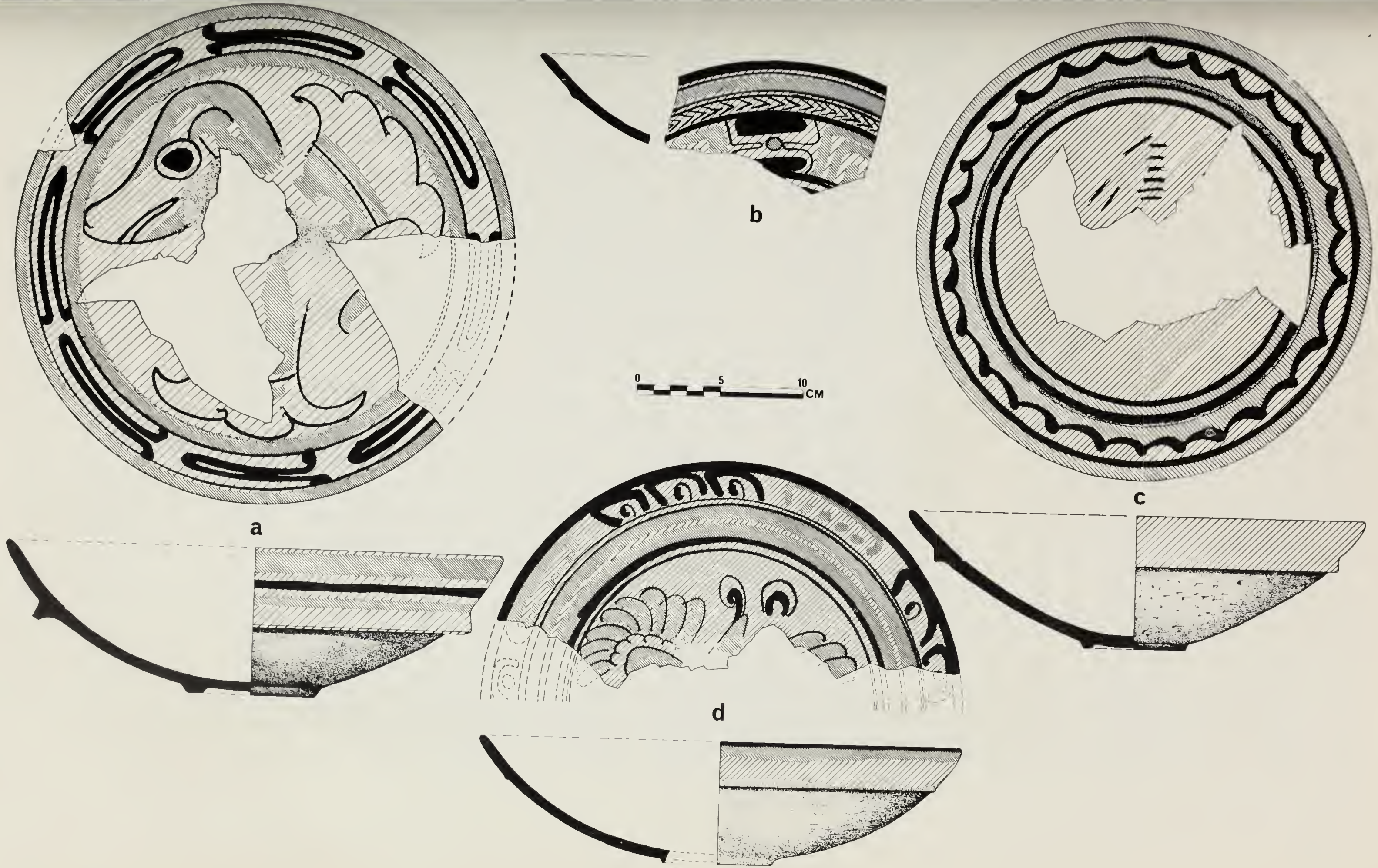
Fig. 6 Polychrome bowl and dishes or plates

a: bowl, basal flange, red and black on orange. Loop border encloses mythical animal motif, apparently with wings.

b–d: dishes or plates, lateral-ridge, red and black on orange. Interior centres probably were all originally decorated with mythical animal motifs.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ceramic complex, dated at A.D. 700–1000 (Willey *et al.*, 1965, pp. 371, 377–378; figs. 235a, b, 236, 237). Affinities are recognizable on a more general level between the Rio Frio bowls and Tepeu 2 specimens at Uaxactun (principally Zacatel Cream-Polychrome), where trade from the Belize Valley may be indicated by the presence of bowls with stepped-fret and red vertical stripe decoration (Smith, 1955, figs. 62, 69a5; Smith and Gifford, 1966, pp. 148–149). The clearcut temporal placement of Benque Viejo Polychrome and related types from outside the Belize Valley area indicates a middle Late Classic (Tepeu 2) date for the Rio Frio E specimens.

Comment: Tripod vessels are not separated from the unfooted specimens, as in all other respects but feet the two groups are identical.

Bowl, basal flange (1)

Illustration: Fig. 6a

Form: Round, medium-thick sides; slightly pointed lip; annular base. At a point above mid-height on sides, a flange inclined diagonally downward.

Size: Diameter 30.8 cm.; height 9.4 cm.; thickness 0.75 cm.

Surface: Slipped, moderately burnished interior; exterior slipped to lip of flange, but not on lower sides or base. Portions of interior centre extensively pitted.

Temper: Calcite, small to medium grains.

Paste: Friable; black core, orange edges.

Colour: Red and black on orange. Slip: Orange rufous. Decoration (interior and exterior): Vinaceous-Rufous and black.

Decoration: Interior: lip red, with thin black line below, at each side of group of elongated loops, with red band encircling centre. Centre design is mythical (?) animal with head resembling dog, and what may be wings. Exterior: red band below lip, black band, and red band just above junction of flange with body.

Comparative material: Not reported from other Rio Frio caves, nor from Actun Balam. Basal-flange polychrome vessels were recovered at Eduardo Quiroz (Pendergast, Occasional Paper 21, in press), but are of a different type, lacking decoration in the interior central area. No similarities are recognizable between the Rio Frio E specimen and basal flange vessels from the Belize Valley, where they are confined to the Early Classic Hermitage ceramic complex (Willey *et al.*, 1965, pp. 350-351, figs. 211, 215, 216 a-d). The shape is close to those of vessels of Tzakol 2-3 at Uaxactun, though these are marked by more complex exterior design, and rarely have interior centre decoration (Caldero Buff-polychrome and Dos Arroyos Orange-polychrome; Smith, 1955, figs. 3d, e, 13b, 26, and 76b5, and Smith and Gifford, 1966, pp. 131, 133, 138, and 152). In the absence of close parallels, the Uaxactun similarities are probably the best basis for suggestion of a Tzakol 2-3 date for the Rio Frio E specimen.

Dish or Plate, lateral-ridge (3)

Illustration: Fig. 6b-d

Form: Round to slightly flaring medium-thick sides, with lateral ridge, accompanied by slight thickening of the rim in one specimen. Lip rounded; annular base.

Size: Diameter 27.1-29.0 cm.; height 7.25-7.95 cm.; thickness 0.55-065 cm.

Surface: Interior slipped, moderate burnish; exterior unslipped (one) or slipped to ridge only (two). Two specimens show colour alterations due to overfiring; one is slightly crazed.

Temper: Calcite, grain size small to medium.

Paste: Friable, with slight angular fracture in only one case. Uniformly black throughout in two specimens, while the third has a grey core grading to buff-orange at the edges.

Colour: Red and black on orange. Slip: Apricot-Orange (two), Apricot Buff (one). Decoration: Vinaceous-Rufous and black.

Decoration: Interior: Lip black or red; encircling black and red lines and bands, enclosing black chevrons, wavy line in black bordering red-filled area, or alternating groups of three black brackets enclosing simple curvilinear spirals with thickened ends, and large red brackets enclosing four red dots. Below these motifs are either additional encircling lines and bands (two) or lines and bands bordering panel of large red concentric brackets alternating with bilobed element enclosing black bars, with a black-bordered red dot at centre (one). Motifs in vessel centre probably uniformly mythical animals, with at least one winged form, generally in red with black outlining and detailing.

Comparative material: No similar vessels are reported from other Rio Frio caves, but a single specimen similar in shape and in execution of design, if not in motifs, comes from Actun Balam (Pendergast, 1969, fig. 5b), and several were recovered at Eduardo Quiroz Cave (Pendergast, Occasional Paper 21, in press). Lateral-ridge polychrome plates are not clearly in evidence in Barton Ramie material, but appear to be present, though with the addition of feet, in Benque Viejo IIIb times at Benque Viejo (Thompson, 1942, fig. 38 a-d). The form is rare at San José in S.J. III (Tepeu 2) times (Thompson, 1939, p. 113, fig. 56a), while tripod vessels of this type occur in Tepeu 1 contexts at Uaxactun (Saxche Orange-polychrome; Smith, 1955, fig. 36, and Smith and Gifford, 1966, pp. 140–141). Though close ties between the Rio Frio E specimens and those from other sites cannot be demonstrated, general similarities suggest a date in the early or middle part of the Late Classic (Tepeu 1–2).

Plate, round-side (3)

Illustration: Fig. 7a, b

Form: Rounded, medium-thick sides; rounded lip; base either flat to convex, or possibly annular.

Size: Diameter 26.4 cm.; height 5.0 cm.; thickness 0.6–0.8 cm.

Surface: Interior slipped, with slight burnish; exterior unslipped.

Temper: Calcite, grain size minute to small.

Paste: Moderately hard, with fairly angular fracture; uniformly orange throughout.

Colour: Red and black on orange; overfiring and erosion of surface make specific colour determinations impossible.

Decoration: Rim black, with three red bands and three black lines bordering centre zone, which is decorated with naturalistic(?) motif in red with black outlines; rim red, with row of red dots beneath, bordered by black lines forming top limit of area of red and black circles (?); similar rim decoration, with two additional black lines below, enclosing red dots with two or more red lines bordering centre zone, centre motif unknown; rim black, black lines bordering groups of two thick sloped brackets in red, enclosing thin black-line H designs, broad vertical red lines with several dependent lines separating bracket groups; red band, black line, and black band below, bordering centre, centre motif unknown.

Comparative material: The single plate recovered by Mason (1928, fig. 9) does not resemble the Rio Frio E specimens, but round-side plates with simple and complex border designs, not including that with H motifs, constitute the greatest part of the polychrome collection from Eduardo Quiroz (Pendergast, Occasional Paper 21, in press). Round-side annular-base plates of Saturday Creek Polychrome, varieties unspecified, are known in small numbers from the Tiger Run ceramic complex of early Late Classic date (A.D. 600–700) at Barton Ramie (Willey *et al.*, 1965, p. 360, figs. 221 e, f, h and 229–230). A similar pattern, though again not including the Rio Frio E complex border motif, occurs at Benque Viejo, principally in Benque Viejo IIIb deposits (Thompson, 1942, fig. 34d, f, g, h), while at Uaxactun the form appears to be somewhat earlier, falling in Tzakol 3 times (Smith, 1955, fig. 35a). A date in the early portion of the Late Classic seems most probable for the Rio Frio E specimens.

Plate, tripod, outcurving-side (1)

Illustration: Fig. 7c

Form: Sharply outcurving, medium-thick sides; rounded lip; base flat to slightly concave. Three feet, probably hollow; form unknown, as feet have been almost completely filed away.

Size: Diameter 21.5 cm.; height 3.0 cm.; thickness 0.8 cm.

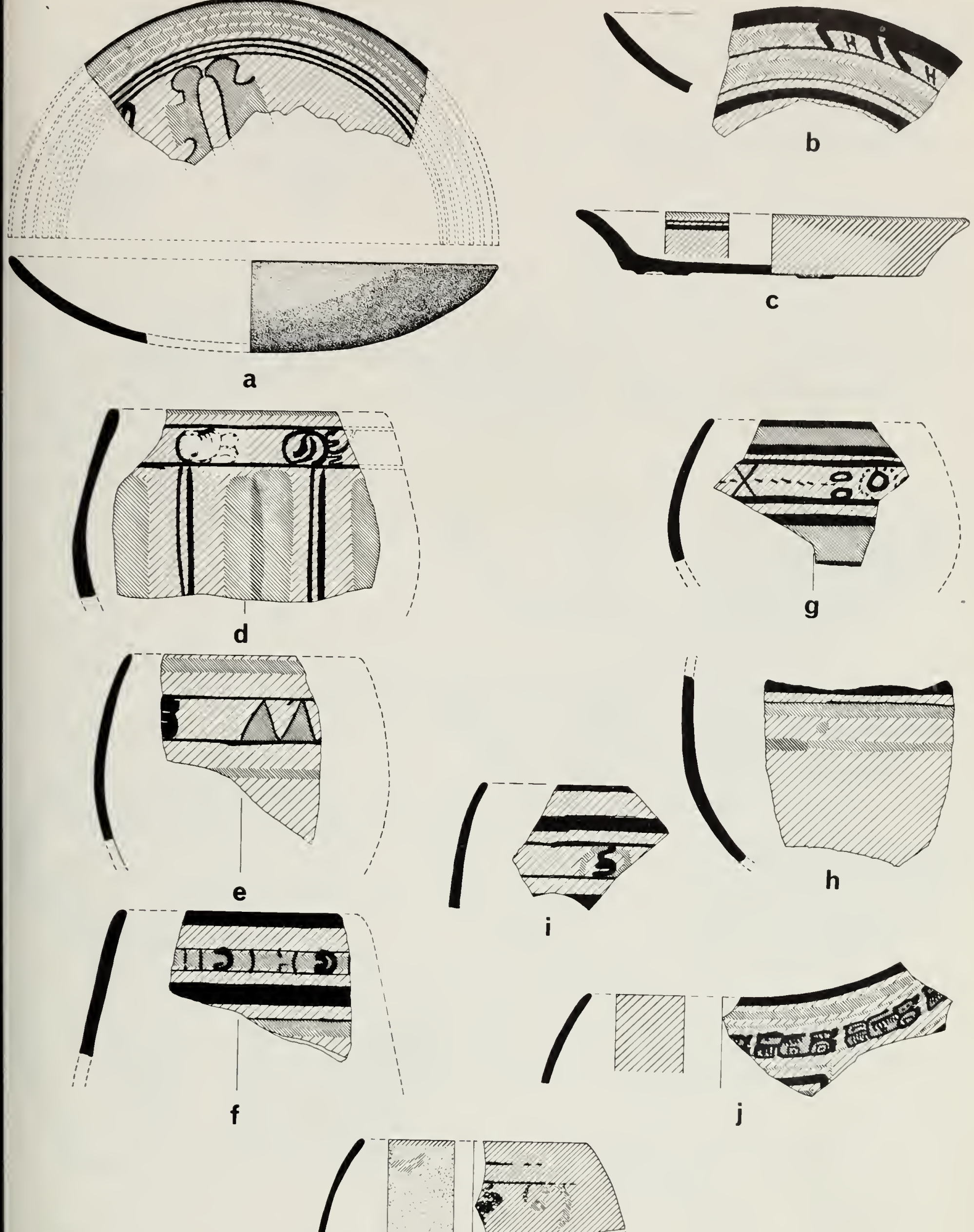
Surface: Slipped, burnished interior, exterior slipped and lightly burnished. Base and feet presumably unslipped.

Fig. 7 Polychrome plates and jars

a,b: plates, round-side, red and black on orange. Multiple-line black and red borders enclose centre areas, probably decorated with mythical animals.

c: plate, tripod, outcurving-side, red and black on orange. Plain exterior, interior decorated with bands only.

d–k: jars, restricted orifice, red and black on orange. Glyph band decoration of *j* may be functional.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Temper: Tuff, with a few minute grains of calcite visible only under 15x magnification.

Paste: Moderately hard, with fairly angular fracture. Uniformly buff-orange throughout.

Colour: Red and black on orange. Slip: Ferruginous interior, Flesh Ocher exterior. Decoration: Vinaceous-Rufous and black.

Decoration: Red band at rim on interior, with two black lines below. Exterior plain.

Comparative material: Tripod polychrome plates are unknown from other Rio Frio caves and from the caves of the Chiquibul, and have not been reported from Barton Ramie. They are, however, known from Benque Viejo IIIb deposits (Thompson, 1942, fig. 38a, b), and from San José III–IV times at San José (Thompson, 1939, pp. 122–123, fig. 64d). Plates of this type are an extremely common form in Tepeu 2 times at Uaxactun (Smith, 1955, figs. 53–59), but they are generally much more elaborately decorated than the Rio Frio E specimen, and of different proportions. A mid-Late Classic (Tepeu 2) date is most probable for the Rio Frio E specimen.

Vase, cylindrical (rim 0, body 1)

Illustration: none

Form: Vertical, medium-thick sides. Lip form unknown; base flat.

Size: Diameter 16.8 cm.; height, n.d.; thickness 0.7 cm.

Surface: Interior slipped, very slight burnish; exterior slipped with slight burnish, eroded and pitted.

Temper: Possibly tuff; none is visible under 15x magnification.

Paste: Moderately hard, with fairly angular fracture; colour buff, grading to slight greyish tinge near surfaces.

Colour: Probably red and black on orange or cream; specific colours undeterminable.

Decoration: Red band at base; remainder unknown.

Comparative material: Specific comparisons are not possible for this fragmentary specimen. Cylindrical polychrome vessels generally fall in early and middle portions of the Late Classic (Tepeu 1–2), and a similar date is likely for the Rio Frio E sherd.

Jar, restricted orifice (rim 15, body 11)

Illustration: Fig. 7d-k

Fig. 8 Bichrome and monochrome slipped bowls and dishes

a,b: bowls, outcurving side, black on red (*a*) and black on orange (*b*). Vertical undulating lines with dots (*a*) and glyphs (*b*) as exterior decorative motifs.

c: bowl, round-side, English Red.

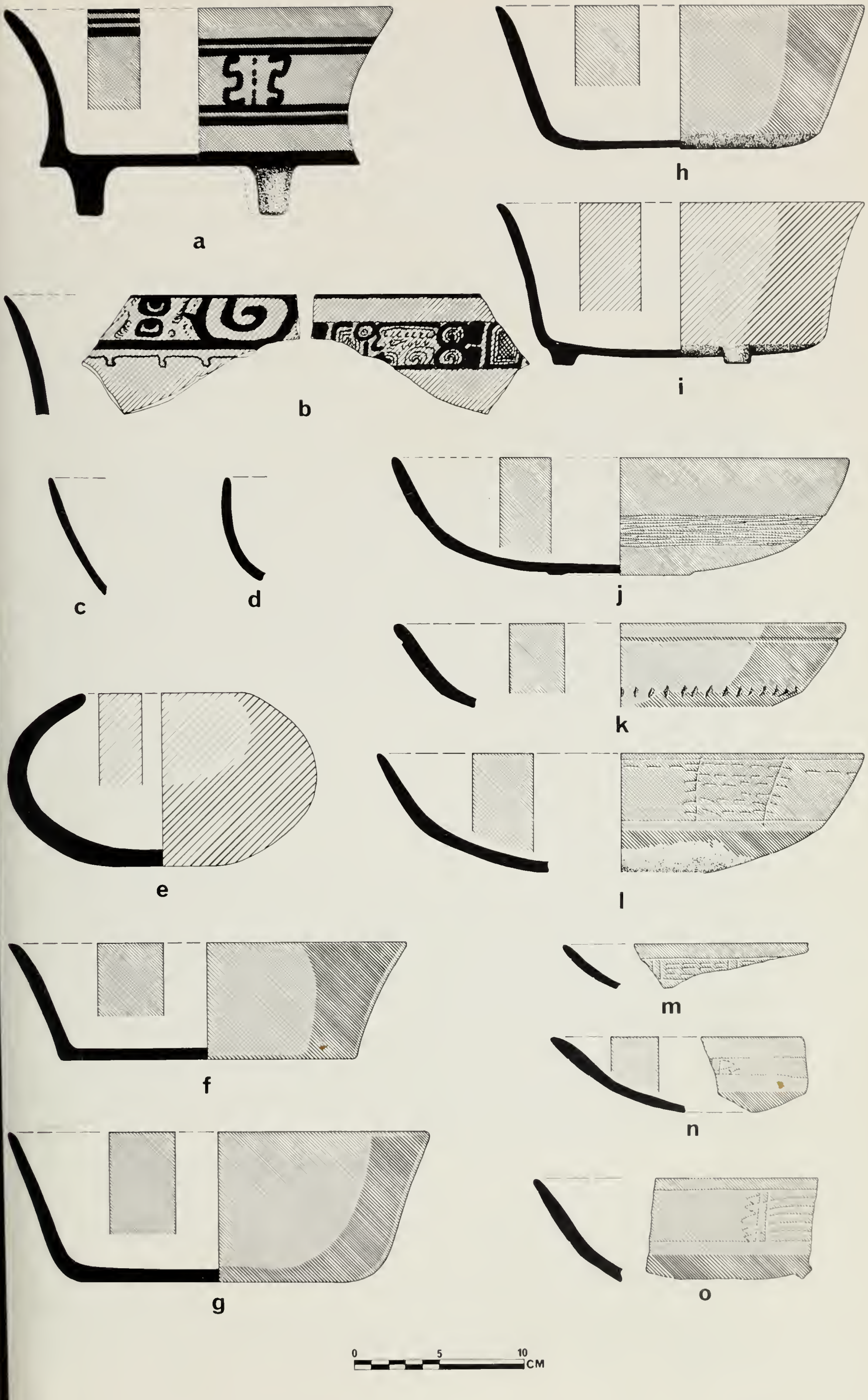
d: bowl, round-side, incurving rim, English Red.

e: bowl, round-side, restricted orifice ("tecomate"), orange.

f–i: bowls, outcurving side, red (*f–h*) and orange (*i*). One specimen (*i*) is footed.

j: bowl or dish, round-side, thickened rim, red. Tool marks below thickened area.

k–o: dishes, round-side, English Red and other red slip colours. Basal notching in one specimen (*k*); preslip, postslip-prepolish, or postfire groove-incised and plain-incised decoration.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Form: Round, medium-thick to thick sides, curving inward slightly to markedly in upper body to produce restricted orifice. Sides thin to eggshell on lower body and base of single reconstructable specimen.

Size: Diameter (one specimen only) maximum 16.6 cm., orifice 12.3 cm.; height (one specimen) 15.0 cm.; thickness 0.6–0.85 cm., av. 0.69 cm.

Surface: Interior slipped in rim area only; exterior slipped with moderate burnish. Base unslipped in single reconstructable specimen. Colour alteration from overfiring common (13 specimens); surface rarely eroded (two).

Temper: Tuff, with minimal calcite in minute to medium grains in a very few specimens. One specimen, of eggshell thickness, has no visible temper.

Paste: Generally hard to very hard, with angular fracture; uniformly orange to buff throughout except for eggshell specimen, which grades to grey near outer surface. Some indications of vitrification in approximately half of the specimens.

Colour: Red and black on orange (12 specimens only for colour determination). Slip: Cinnamon-Rufous (7), Orange-Cinnamon (1), Ferruginous (3), Hazel (1). Decoration: Vinaceous-Rufous and black.

Decoration: Rim plain or black; upper body encircled by varying numbers of lines and bands in black and red, often enclosing motifs including: triangles with black border, usually filled in red; thickened S in black, occasionally surrounded by red circle; crescent and irregular vertical lines in black on red band; X, lateral dotted line, and irregular open circles in black; pseudo-glyphs in black (one); and possibly functional glyphs in black and red (one). Lower body plain, or with vertical panels in red separated by pairs of thin black lines; encircling lines or bands in red or black; panels of black chevrons; curvilinear (serpent?) motifs in red with black outline; or complex panels of geometric designs in black and red.

Comparative material: One crudely decorated fragment is reported from Rio Frio Cave C, and a similar but complete specimen from Chikin Ak Tun cave (Mason, 1928, figs. 2 and 27a). Polychrome jars of this form are not yet reported from Barton Ramie, but specimens closely resembling those from Rio Frio E are known in middle Late Classic times at Benque Viejo (Thompson, 1942, fig. 36), and in the early and middle Late Classic at Uaxactun (principally Saxche Orange-polychrome; Smith, 1955, fig. 33, and Smith and Gifford, 1966, pp. 139–140). The Rio Frio E materials are presumably contemporaneous with those from the last two sites.

II. Slipped bichrome (2)

Bowl, outcurving side (2)

Illustration: Fig. 8a, b

Form: Outcurving, medium-thick sides; lip rounded to slightly pointed, base flat. Single reconstructable vessel has three elongated solid columnar feet.

Size: (one specimen only) Diameter 23.1 cm.; height 12.35 cm., or 9.4 cm. excluding feet; thickness 0.5–0.8 cm.

Surface: Interior slipped, with moderate burnish; exterior, excluding base and feet, slipped with very high burnish. Firing clouds and alteration of colour through overfiring are present in basal areas of reconstructable specimen.

Temper: Reconstructable specimen, tuff; fragmentary specimen, calcite with occasional quartz grains, minute to small size.

Paste: Hard, with angular fracture; reconstructable specimen somewhat porous, with some apparent vitrification, and orange in the inner half, grading to grey in the outer half, while the other specimen has uniformly orange paste.

Colour: Black on red, and black on orange. Slip: Mars Orange, Tawny. Decoration: black.

Decoration: Lip black; interior rim band with large loop enclosing simple scroll, plus ovals with attached dot at top interior, surrounded by lines of dots and fringed lines, bordered by band with thin jogged line below; exterior encircling band of possibly functional glyphs. Second specimen has plain rim, with two encircling bands below lip on interior; centre of exterior marked by encircling paired thick lines bordering zone containing motifs consisting of pairs of vertical undulating lines enclosing a vertical row of dots, with black band at the base.

Comparative material: Similar to the polychrome specimens of this shape, and presumably with the same temporal placement (Tepeu 2).

III. Slipped monochrome (106)

Bowl, round-side (5)

Illustration: Fig. 8c

Form: Round, medium-thick to thick sides; lip rounded to slightly pointed; base convex.

Size: Diameter, n.d.; ht. 9.0 cm. (one specimen); thickness 0.55–1.0 cm.

Surface: Interior slipped, with moderate to high burnish, some firing clouds or mineral stain in one specimen; exterior slipped, with slight to high burnish. Specimens with very high tuff temper content float on water, and are uniformly badly eroded and pitted. Only one base is present, and it is unslipped.

Temper: Tuff (four), tuff with minute grains of calcite (one).

Paste: Ranges from soft, with partly crumbly fracture, to moderately hard with somewhat angular fracture. Colour ranges from uniform buff to light grey with buff near inner surface.

Colour: Red (English Red, Mahogany Red).

Decoration: Preslip groove-incised loops extending upward from junction of side and base to about midway up on sides; preslip groove-incised encircling line at rim; two postfire plain-incised encircling lines at rim; also plain.

Comparative material: No similarly-decorated forms are reported from the caves of Rio Frio and the Chiquibul, nor from Barton Ramie, but

Benque Viejo yielded tuff-tempered material closely resembling the Rio Frio E specimens, and dating from Benque Viejo IIIb times (Thompson, 1942, fig. 17). A similar date is highly likely for the Rio Frio E sample.

Bowl, round-side, incurving rim (rim 4, body 1)

Illustration: Fig. 8d

Form: Round, medium-thick sides, curving inward toward top to produce slight restriction of orifice. Base apparently rounded; lip rounded, slightly pointed, or flat (one specimen only).

Size: Diameter (one specimen) 19.2 cm.; height, n.d.; thickness 0.65–0.8 cm.

Surface: Interior slipped, with moderate to high burnish; exterior slipped, with slight to very high burnish. Firing cloud on one specimen.

Temper: Tuff (three); calcite in minute to very small grains (two).

Paste: Tuff tempered, medium-hard to rather soft, with slightly angular to crumbly fracture; uniform buff in two specimens, uniform light grey in one. Calcite tempered, moderately hard with partly angular fracture; orange throughout.

Colour: Red. Vinaceous-Rufous (three), Kaiser Brown (two).

Decoration: None.

Comparative material: Specimens from Rio Frio E are too fragmentary to permit close comparisons, but it should be noted that redware vessels of this shape category though mostly decorated, are common at Actun Balam (Pendergast, 1969, pp. 21–24, fig. 8a–e), and are also found at Eduardo Quiroz (Pendergast, Occasional Paper 21, in press). Comparison with Barton Ramie materials is not yet possible, but a vessel approaching the Rio Frio E specimens in size and shape is recorded at Benque Viejo (Benque Viejo IIIa; Thompson, 1942, fig. 12a). Decorated and undecorated redware vessels of similar shape, but with annular bases, come from the latter part of the Late Classic and the initial phase of the Post-Classic at San José (Thompson, 1939, pp. 130–131, fig. 71). Flat-based redware (Tinaja Red) incurving-rim bowls have similar temporal placement at Uaxactun, coming from Tepeu 3 deposits (Smith, 1955, figs. 49a15 and 50a7; Smith and Gifford, 1966, p. 145). A date in the middle portion of the Late Classic seems probable for the Rio Frio E materials.

Bowl, round-side, restricted orifice ("tecomate") (1)

Illustration: Fig. 8e

Form: Round, medium-thick sides, curving inward sharply at the top to produce markedly restricted orifice. Lip pointed; base convex or slightly flattened at centre.

Size: Diameter 15.25 cm.; orifice *c.* 8.2 cm.; height 9.9 cm.; thickness 0.6 cm.

Surface: Interior lightly and carelessly slipped, with very slight burnish near orifice; exterior, except base, slipped rather irregularly, with slight burnish. Surface is irregular and poorly smoothed. Firing clouds cover approximately half the exterior.

Temper: Calcite, very small to small grains.

Paste: Friable, with crumbly fracture. Uniformly orange throughout.

Colour: Orange (Mikado Brown)

Decoration: none

Comparative material: True tecomates are not reported from any of the sites yielding comparative data for the Rio Frio E material, though a miniature vessel from a San José IV(?) burial approaches the shape of the Rio Frio E specimen (Thompson, 1939, fig. 72e). An unslipped, lidded tripod tecomate is known from an Early Classic tomb at Altun Ha, but neither this nor the San José occurrence provides a basis for secure dating of the present vessel.

Bowl, outcurving side (rim 7, body 2)

Illustration: Fig. 8f–i

Form: Outcurving to nearly outflaring, medium-thick to thick sides; lip rounded to slightly pointed. Base flat, slightly concave, or slightly convex, generally with a sharp angle between base and sides, though two specimens are rounded at this junction.

Size: Diameter 20.7–26.0 cm.; height 7.0–9.5 cm., av. 8.0 cm. (footed specimens fall within this range even when foot height is included); thickness 0.55–0.85 cm., av. 0.7 cm.

Surface: Interior slipped with slight to high burnish, base slip frequently eroded or worn away; exterior slipped with moderate to high burnish, exposed paste colour in one specimen, and extensively crazed and pitted in four specimens. Base unslipped except in one specimen. Small to extensive firing clouds occur at the bases of three vessels.

Temper: Tuff (five), tuff with minor very small grains of calcite (two), and calcite in minute to small grains (two). Specimen with slipped base has very high temper content, producing very light weight.

Paste: Tuff and tuff-calcite tempered sherds are generally soft and friable, with crumbly fracture, ranging to occasionally moderately hard with partly angular fracture. Colour includes brick red-orange to light grey in exterior half, with buff interior half; buff-grey throughout; and grey core with buff to orange surfaces.

Colour: Three Red (English Red); two Orange (Orange-Rufous, Sanford's Brown).

Decoration: Interior plain; exterior plain except for one specimen, decorated with group(s) of three slanting preslip groove-incised lines.

Appendages: Two specimens have low, solid truncated conical or columnar feet, 0.5 and 0.7 cm. high.

Comparative material: The sherds are generally too small to permit specific intersite comparisons, but a pattern of distribution in time and space resembling that of other English Red ware categories can be assumed, with a Tepeu 2 date most likely.

Bowl or dish, round-side, thickened rim (2)

Illustration: Fig. 8j

Form: Round, medium-thick sides, increasing to thick in rim area as result of interior thickening in ridge form. Lip slightly flattened; base form unknown.

Size: (one specimen only) Diameter 19.2 cm.; height (estimated) 6.5 cm.; thickness 0.5 cm., increasing to maximum of 1.0 cm. at apex of rim thickening.

Surface: Interior slipped, moderate to high burnish, some mineral stain or fire clouding; exterior fully slipped, with fire clouding, in one specimen, while other is slipped to (and slightly below in one area) lateral fillet, with area below fillet unslipped but, like upper body, with moderately high burnish.

Temper: Calcite, grain size minute to small.

Paste: Moderately hard to hard, with partly angular to angular fracture. Softer specimen is uniformly orange throughout; harder is light grey in exterior half and orange in interior half.

Colour: Red (Hay's Russet interior; exterior Hay's Russet in one specimen, Vinaceous-Rufous in other).

Decoration: One specimen plain, other with thumb-impressed lateral fillet on exterior below area of rim thickening.

Comparative material: A single annular-based thickened-rim bowl comes from Rio Frio Cave A (Mason, 1929, fig. 10), and similar forms were recovered from Actun Balam (unslipped; Pendergast, 1969, p. 31), and Eduardo Quiroz (Pendergast, Occasional Paper 21, in press). Both redware and blackware bowls of this shape are among the materials of the Spanish Lookout ceramic complex (A.D. 700–1000) at Barton Ramie, including Garbutt Creek Red: Paslow Variety, and Mount Maloney Black: Mount Maloney and unspecified varieties (Willey *et al.*, 1965, p. 373, figs. 233b and 234d, e). The form is present in blackware, with a variant also in redware, at Benque Viejo in Late Classic deposits (Thompson, 1942, figs. 12e and 26), but both groups of specimens are marked by more incurved rims. The same is true of San José IV and V annular-based redware bowls (Thompson, 1939, fig. 71) and Tepeu thickened-rim bowls from Uaxactun, where thumb-impressed fillets appear to be most common in Tepeu 1 times, but the bevelled interior thickening of the Rio Frio E specimens is not recorded (Smith, 1955, fig. 48a). A Late Classic, probably Tepeu 1–2, date is probable for the Rio Frio E bowls.

Dish, round-side (rim 19, body 2)

Illustration: Fig. 8k–o, 9a–j

Form: Round to occasionally very slightly outflaring, medium-thick to thick sides; base convex; lip rounded to pointed. Junction between sides and base varies from rounded to slightly angular, and interior is

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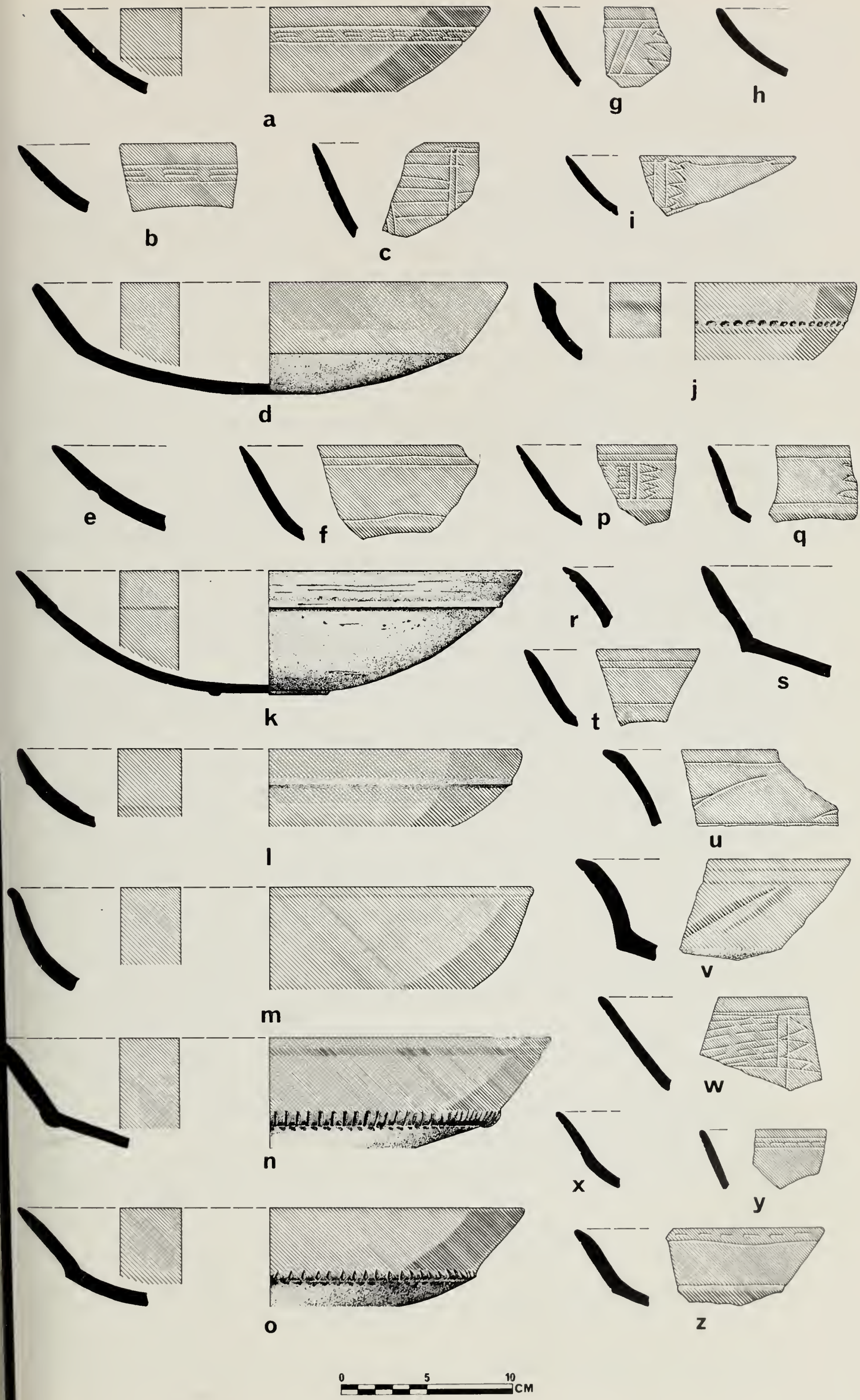
Fig. 9 Monochrome slipped dishes
a–j: dishes, round-side, English Red and other red slip colours. Groove-incised decoration, plus one impressed fillet (*j*).
k,l: dishes, round-side, lateral ridge, English Red.
m: dish, round-side, bead rim, English Red.
n–z: dishes, tripod, flaring to outcurving side, English Red and other red slip colours. Postslip-prepolish groove-incised decoration, with one example of false gadrooning (*v*).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occasionally marked at this point by an inward bend, with the basal area thinner than the sides. Uncommon base forms include one annular base and one with a depressed circular area at the centre.

Size: Diameter 23.0–29.2 cm.; height (two specimens only) 6.6–7.2 cm.; thickness 0.65–0.95 cm., av. 0.74 cm.

Surface: Interior slipped, with slight to very high burnish; exterior slipped, with moderate burnish, or unslipped (one specimen). Base uniformly unslipped. Firing clouds frequent on exterior, as are pitting and crazing, with the greatest amount occurring in light-weight tuff-tempered sherds.

Temper: Calcite, minute to small grains (11); tuff and calcite (two); tuff (eight).

Paste: Calcite-tempered specimens are moderately hard to very hard, with partly to wholly angular fracture; colour includes uniform buff to buff-orange, red-orange, light to dark grey exterior with buff-orange core, and light grey core with buff surfaces. Flecks of mica (possibly muscovite) occur in one calcite-tempered specimen. Tuff-tempered specimens, including those with minor admixture of calcite, range from soft to moderately hard, with crumbly to partly angular fracture. Colour is buff to orange-red. Specimens with large amounts of tuff temper tend to be extremely porous, and most will float on water.

Colour: Red (Vinaceous-Rufous [6], Mahogany Red interior and English Red exterior [1], English Red [2], Bay [2], Hay's Russet interior, Vinaceous-Rufous exterior [1], Hay's Russet [2], Mahogany Red [4], Chestnut interior, Fuscous exterior [1], Mars Brown interior, Russet exterior [1]). Also Orange (Auburn), one specimen.

Decoration: Single preslip groove-incised encircling line at mid-height; groove-incised preslip or postslip-prepolish encircling lines at rim and base; deep preslip groove-incised encircling line at rim, base notched; preslip, postslip-prepolish, or postfire plain-incised encircling lines at rim and base or occasionally at mid-height, enclosing motifs including pairs of lateral dashes; vertical zigzag attached to parallel vertical lines bordering group of lateral lines; parallel vertical lines bordering panel of short lateral dashes; slightly curved parallel vertical lines with attached ℞ symbol; or single vertical lines enclosing panel of lateral dashes, the top row of which extends around the vessel while the vertical lines are bordered on the outer sides by rows of lateral dashes; undecorated except for a wide, slightly depressed encircling band at base, apparently produced by dragging a broad-ended, rather rough tool over the surface; also completely plain.

Comparative material: Unreported from other Rio Frio caves, and likewise not known from either Actun Balam or Eduardo Quiroz. In both of the latter sites, the highly polished redwares of this category are totally absent. Nothing resembling the Rio Frio E materials is reported from Barton Ramie, but one of the decorative patterns occurs on redware bowls from Benque Viejo, principally in B.V. IIIa, but also in IIIb and IV, hence spanning most of the Late Classic (Thompson, 1942, Fig. 12d, f). Probably related to the Tepeu 2 English Red ware with incised decoration from Uaxactun (Pala Incised; Smith, 1955, p. 174, figs. 69a6–8 and 79a; Smith and Gifford, 1966, pp. 149 and 152), and very likely of similar date.

Dish, round-side, lateral ridge (2)

Illustration: Fig. 9k, 1

Form: Round, medium-thick sides, with lateral ridge below rim. Lip rounded; base annular. In interior, just below line of lateral ridge at approximate junction of side and base, the vessel surface is thinned slightly, producing the effect of a thickened rim or side.

Size: Diameter 29.8–30.3 cm.; height 7.3 cm.; thickness 0.7 and 0.8 cm.

Surface: Interior slipped, with moderate to very high burnish; exterior unslipped, or less frequently slipped to ridge only, with moderate burnish.

Temper: Calcite, with very small grain size (one); tuff (one).

Paste: Rather soft to friable, with generally crumbly fracture. Tuff-tempered specimen is uniformly buff in colour, while calcite-tempered is grey-cored, with buff-orange at surfaces.

Colour: Red (English Red)

Decoration: none

Comparative material: Not reported from other Rio Frio caves, nor from those in the Chiquibul, where English Red ware may not occur. It is not presently possible to determine with certainty whether lateral-ridge redware dishes were recovered at Barton Ramie, but they are recorded at Benque Viejo, probably from B.V. IIIa deposits (Thompson, 1942, Fig. 11). They occur in approximately the same time period at San José (Thompson, 1939, pp. 100–101, fig. 47c, e, f). There are no close affinities between the Rio Frio E specimens and materials from Uaxactun, from either Late Classic or earlier contexts. A middle Late Classic (Tepeu 2) date is indicated for the Rio Frio E specimens.

Remarks: One specimen (Fig. 9k) from alcove.

Dish, round-side, bead rim (1)

Illustration: Fig. 9m

Form: Round, medium-thick to thick sides, with rounded bead on rim exterior. Base form unknown.

Size: Diameter 31.0 cm.; estimated height 6.5 cm.; thickness 0.7 cm., increasing to 0.9 cm. near base.

Surface: Interior slipped with high burnish, slip partly polished away near rim; exterior slipped with moderate burnish, extensive fire-clouding. Slip worn or polished away on much of bead; lateral burnishing marks visible on most of exterior.

Temper: Tuff

Paste: Hard, with angular fracture; core very light grey, grading to buff-orange at surfaces.

Colour: Red (Vinaceous-Rufous interior, English Red exterior)

Decoration: none

Comparative material: Not reported from other Rio Frio caves, nor from Chiquibul caves. A more pronounced bead rim is a feature of vessels of unusual shape, and perhaps of dishes or bowls as well, of Vaca Falls Red: Vaca Falls Variety, in the Late Classic/Early Post-Classic Spanish Lookout ceramic complex (Willey *et al.*, 1965, figs. 231, 232, 233), but is not recorded in the red wares of Benque Viejo. Something approaching a bead rim occurs at San José in S.J. I (Thompson, 1939, p. 83, fig. 32c), but vessel shape is not indicated. Bead rims resembling that from Rio Frio E are reported at Uaxactun in Tepeu 3 redware jars (Smith, 1955, fig. 50a10–13), and a similar to slightly earlier date appears likely for the Rio Frio E specimen.

Dish, tripod, flaring to outcurving side (rim 26, body 3)

Illustration: Fig. 9n–z, 10a–c

Form: Outcurving to slightly flaring, medium-thick to thick sides, approaching rounded sides in two specimens. Lip rounded to slightly pointed, with four specimens having a slight eversion at the rim of outcurving sides, producing a flattened rim-top, with a pointed lip. Base convex. Feet range from hollow cylindrical or truncated conical with two(?) vents, probably vertical slits, to oblong solid (largely ground away in two cases).

Size: Diameter 22.0–34.9 cm.; height 5.9–7.0 cm. (no specimen with feet intact); thickness 0.5–1.1 cm., av. 0.77 cm.

Surface: Interior slipped, with moderate to high burnish, and uncommon firing clouds, with pitting and erosion occurring principally in light-weight sherds. Exterior slipped, with slight to moderately high burnish (one specimen unburnished); base unslipped. Firing clouds rare on exterior, and pitting and erosion are generally limited to light-weight sherds. One specimen has slip worn away on base of interior.

Temper: Tuff (17); tuff with minor calcite in minute to very small grains (five); calcite, in very small to small grains (seven).

Paste: Tuff-tempered ranges from soft, with crumbly fracture, to hard with angular fracture; colours are buff-orange, orange-red, greyish-buff, and greyish exterior half with buff-orange interior. Calcite-tempered specimens are hard to medium-hard, with largely to wholly angular fracture; colours are buff-orange, dark grey-brown, and also black core with orange-red surfaces, the latter very thin in one specimen. Tuff and calcite combinations resemble generally the tuff-tempered sherds.

Fig. 10 Monochrome slipped dishes, plates, vase, and jars

a–c: dishes, tripod, flaring to outcurving side, English Red and other red slip colours. Basal notches, one or more encircling postslip-prepolish (*b,c*) or postfire (*a*) encircling lines at rim.

d–g: plates, tripod, sharp Z-angle (*e–g*) or basal flange (*d*), English Red and other red slip colours. Basal notches, accompanied by gouges in one specimen (*e*); postslip-prepolish groove-incised line at rim.

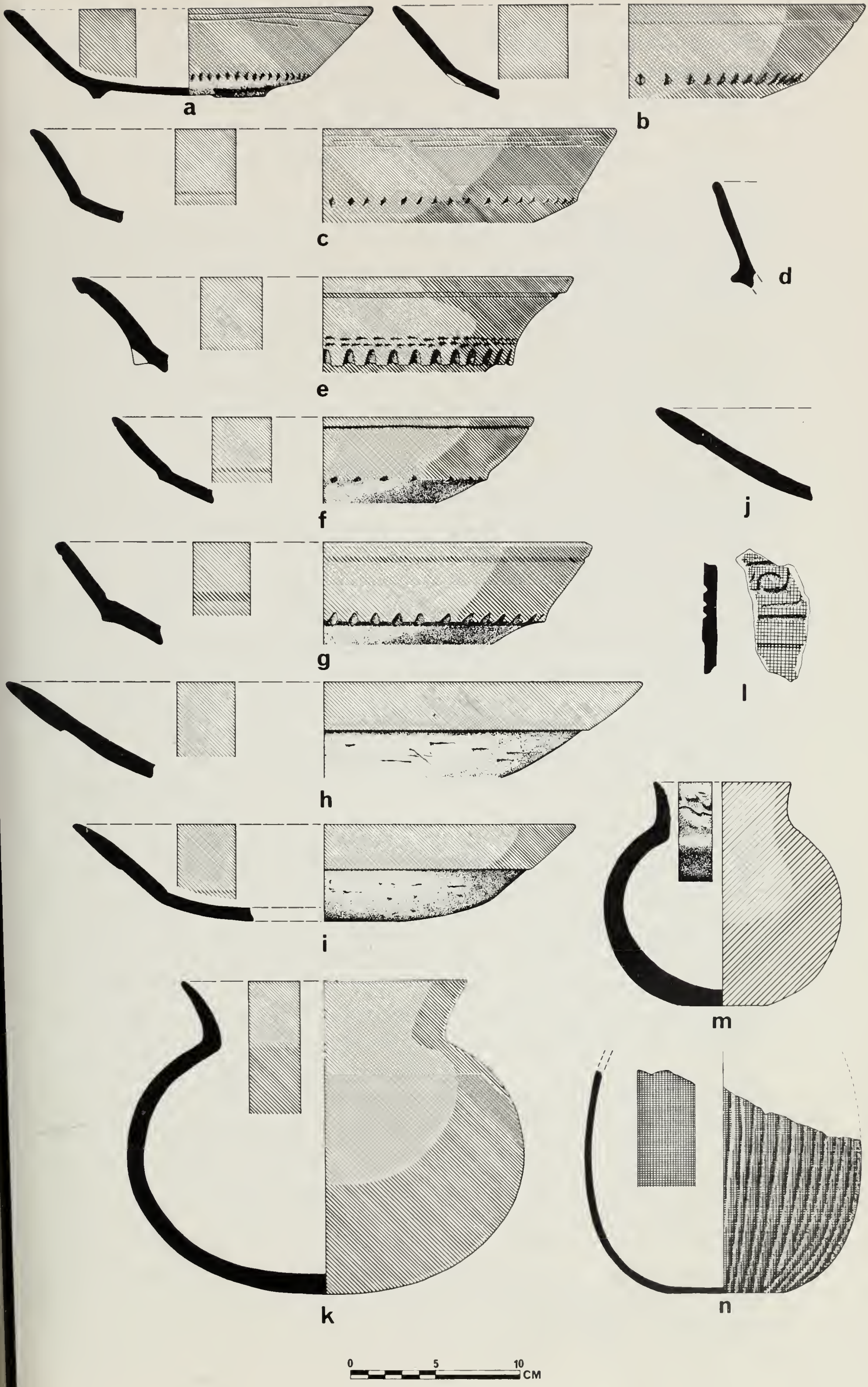
h–j: plates, flaring side, thickened rim, English Red and other red slip colours.

k: jar, wide mouth, everted lip, orange. Note that interior is slipped.

l: vase, cylindrical, brown. Postslip-postpolish groove-incised design.

m: jar, small, slightly everted lip, orange.

n: jar, slightly restricted orifice or barrel-shape, brown. Vertical groove-incising producing fluted effect.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Colour: Red (Mahogany Red, Vinaceous-Rufous, English Red, Hay's Russet, Cinnamon-Rufous, Ferruginous, Bay, Russet). Combinations: Vinaceous-Rufous exterior, Hay's Russet interior (2); Mahogany Red exterior, English Red interior (2); English Red exterior, Mahogany Red interior (2); English Red exterior, Bay interior (1); Cinnamon-Rufous exterior, Ferruginous interior (1); Mahogany Red exterior, Fuscous interior (1).

Decoration: Single or paired postslip-prepolish, or occasionally postfire, plain-incised encircling lines at rim; single postslip-prepolish groove-incised encircling line at rim; pair of crude postslip-prepolish plain-incised encircling lines on sides; encircling lines enclosing vertical zigzag attached to paired vertical lines forming borders of panels of slanted lateral dashes, all postslip-prepolish; pair of postslip-prepolish groove-incised encircling lines at rim, enclosing encircling line of dashes; base notched; lower part of sides, to junction with base, indented, showing slight marks of smoothing tool; two postslip-prepolish groove-incised encircling lines at rim, one at base, with groove-incised encircling lines at rim, one at base, with groove-incised slanted line in centre of raised slanted area, in unmodified areas, on sides, creating gadrooning effect; also plain.

Comparative material: One sherd with design similar to that of cave E specimens is reported from Rio Frio C (Mason, 1928, fig. 24). Though the shape occurs in Actun Balam (Pendergast, 1969, fig. 7), none of the specimens but one (fig. 7g) is possibly comparable to the English Red of Rio Frio E, while in Eduardo Quiroz no directly comparable vessels occur (Pendergast, Occasional Paper 21, in press). Platon Punctate-incised: Platon Variety redware vessels from the Late Classic/Early Post-Classic Spanish Lookout ceramic complex at Barton Ramie may be related to the Rio Frio E materials (Willey, 1965, p. 380, figs. 240 and 241), as are the Tau-footed tripod dishes and oven-footed tripod pans of Benque Viejo IIIa and IV, respectively (Thompson, 1942 figs. 15 and 47), the closer affinities being with the B.V. IIIa dishes, except that hollow rather than slab feet predominate at Rio Frio E. San José IV Basal-overlap dishes (Thompson, 1939, fig. 69) resemble many of the Rio Frio E specimens, but are annular or convex-based and apparently lack decoration of the Rio Frio types. General affinities can also be recognized with Tepeu 2 and 3 tripod redware (Rosa Punctated) plates from Uaxactun, though sections are in many cases closer to those of Tzakol rounded Z-angle bowls, which, however, lack tripod supports (Smith, 1955, figs. 51a1 and 18a3; Smith and Gifford, 1966, p. 145). The Rio Frio E specimens seem, in fact, to combine characteristics of Z-angle bowls with tripods, making precise evaluation of cross-ties rather difficult. A Late Classic date is virtually certain for the various forms; it may be that the category is too broad, lumping together shape varieties which have temporal significance, but the absence of stratigraphic data makes resolution of this potential problem impossible at Rio Frio E.

Remarks: Most illustrated specimens do not show feet or foot fragments, as the feet had been intentionally removed, leaving only the attachment mark, in almost all cases. This practice parallels that in evidence in the polychrome outcurving-side bowls.

Plate, tripod, sharp Z-angle (7) or basal flange (1)

Illustration: Fig. 10d–g

Form: Outcurving to very slightly outflaring or occasionally nearly round medium-thick to thick sides; lip rounded to pointed; base convex. At junction of sides and base there is a protrusion, ranging from sharply to poorly-defined, giving the side/base profile a Z-angle. One specimen, with slightly flaring medium-thick sides, has a small basal flange.

Size: Diameter 26.0–31.2 cm.; height estimated at 5.4–5.7 cm., not including feet, which are not present in any specimen. Identification of vessels as tripod is based on analogy with specimens from other sites, as well as other redware vessels in the Rio Frio E collection. Thickness 0.65–0.95 cm.

Surface: Interior slipped, with moderate to very high burnish, slight mineral stain(?) in two specimens; exterior slipped, with slight to high burnish, firing clouds in three specimens. Base unslipped.

Temper: Tuff (five); calcite, very small to small grains (three, including basal flange).

Paste: Tuff-tempered specimens medium to very hard, with partly to completely angular fracture and colour range including uniform buff or buff-orange, grey core with buff surfaces, and grey exterior half and buff-orange interior half. Calcite-tempered specimens are moderately hard to very hard, with partly to wholly angular fracture, with uniform orange colour in two cases, and light grey with buff-orange near interior surface in the third.

Colour: (Interior and exterior differences due to different amounts of slip and firing variations). Interior: Red (English Red, Mahogany Red, Hay's Russet, Burnt Sienna, Hazel); exterior: Red (English Red, Mahogany Red, Burnt Sienna, Ferruginous, Snuff Brown). Basal flange specimen is Orange-Cinnamon on interior, Cinnamon-Buff on exterior. Colour combinations in individual vessels include Hay's Russet interior with English Red exterior; English Red interior with Mahogany Red exterior; Mahogany Red interior with Ferruginous exterior; and Hazel interior with Snuff Brown exterior.

Decoration: Postslip-prepolish groove-incised encircling line at rim (five), or plain rim (two) (basal flange specimen is slightly thickened at rim, with very shallow preslip encircling groove below). Basal angle is V-notched, vertically cut, or tool-impressed, the last producing demi-lune notches. One specimen has preslip plain-incised encircling line just above angle; one has two rows of lateral postfire plain-incised gouges above angle; remainder are plain this area.

Comparative material: Though not reported from other Rio Frio caves, notched Z-angle tripod redware vessels are known from Actun Balam (Pendergast, 1969, p. 29, fig. 7g, k), and the form also occurs, with minimal angle, at Eduardo Quiroz in orange (Sayal Brown) ware (Pendergast, 1964, p. 124, fig. 3b). Notched and unnotched Z-angle vessels are reported from Baking Pot (Bullard and Bullard, 1965, fig. 10) and also from Benque Viejo IV deposits (Thompson, 1942, fig. 47a, b, e, g–j). The form appears to be restricted to the final (Early Post-Classic) phase at San José (Thompson, 1939, fig. 80c), and is found in Tepeu 3 at Uaxactun, in Cameron Incised and Tinaja Red (Smith, 1955, p. 193, fig. 5 1 d 1, 2; Smith and Gifford, 1966, pp. 145–146). The form is one of the better markers of Tepeu 3.

Plate, flaring side, thickened rim (4)

Illustration: Fig. 10h–j

Form: Flaring to slightly outcurving medium-thick to thick sides, with thickening of rim or upper sides accentuated by separation of rim from lower sides and base by a groove on the exterior, with a groove at a lower point (junction of sides and base) in one specimen. Base flattened to slightly rounded; lip rounded to pointed.

Size: Diameter 30.0–38.0 cm.; height 4.6–5.0 (estimated) cm.; thickness 0.75–1.15 cm.

Surface: Interior slipped, with moderate to high burnish, patchy in one specimen, in which slip is polished or worn away in centre, and large firing clouds occur on base and sides. Exterior unslipped (two), or slipped only in area of thickening (two). One unslipped specimen is lightly burnished in the thickened area, while one slipped specimen is unburnished and the other is very highly burnished. Small amounts of slip extend onto lower sides in both slipped specimens, and in the unburnished vessel the unslipped lower sides show lateral tool-marks, with firing discolouration in the same area in which interior firing clouds occur.

Temper: Tuff

Paste: Moderately hard to hard, with slightly to wholly angular fracture. Colours include uniform buff to buff-orange and grey core with buff-orange surfaces. Lenses of carbonized material occur in the centre of one sherd.

Colour: Red (interior Ferruginous, Vinaceous-Rufous, English Red, and Kaiser Brown; exterior English Red in burnished specimen, Flesh Ochre in the other.)

Decoration: Line of poorly executed postfire(?) dashes at base of thickened area in one specimen; remainder plain.

Comparative material: Not reported from other Rio Frio caves, nor from those in the Chiquibul. Not known to be present at Barton Ramie, but thickened-rim redware dishes occur in middle Late Classic times at Benque Viejo (Thompson, 1942, fig. 13a–e, g–j, l–n), though with interior rather than exterior thickening. The form was not recovered at San José, nor at Uaxactun. Dating of other Rio Frio E materials, plus possible links with the Benque Viejo dishes, may indicate a Tepeu 2 placement for this form.

Vase, cylindrical (rim 0, body 4)

Illustration: Fig. 10l

Form: Vertical medium-thick sides. Base flat; lip form unknown.

Size: Diameter, n.d.; height, n.d.; thickness 0.6–0.7 cm.

Surface: Interior unslipped; exterior, except base, slipped with slight to high burnish. Firing clouds and colour alteration from overfiring present in two specimens.

Temper: None visible, even under 15x magnification, in redware specimens; blackware sherd is tempered with quartz sand, small grain size.

Paste: Redware: hard, with angular fracture; one specimen orange throughout, the other orange near outer surface, reminder light grey. Blackware: somewhat friable, but with partly angular fracture; uniformly grey throughout.

Colour: English Red (1), overfired red (1), black (1), overfired brown (1).

Decoration: Interior, none; exterior, two postslip-prepolish groove-incised encircling lines above base, plus shallow vertical fluting; postslip-postpolish (possibly postfire) groove-incised complex design with fret as centre element; also plain.

Comparative material: Illustrated specimen may be related to brownware tripod cylinders from Actun Balam (Pendergast, 1969, pp. 20–21, fig. 6c) and Eduardo Quiroz (Pendergast, Occasional Paper 21, in press). Fluted cylindrical vases occur in the Early Classic Hermitage ceramic complex and in the Tiger Run complex of the early Late Classic (Willey *et al.*, 1965, figs. 217a, b and 221g, respectively), but base form is not recorded, and insufficient information is available to permit more than very general comparisons. The decorative technique occurs in redware and blackware cylinders from Benque Viejo IIIa and b (Thompson, 1942, figs. 19 and 25), but again specific comparisons are impossible. The same can be said of San José specimens, where true vertical-sided monochrome cylinders are rare, and apparently limited to Transition III-IV (about Tepeu 2) times (Thompson, 1939, p. 116, fig. 60a, b); once again, fluting is the common decoration form. Monochrome cylindrical vessels of various types and varieties, often with glyph or pseudo-glyph rim decoration, occur in Tepeu 3 times at Uaxactun (Smith, 1955, p. 195, fig. 44i–l, n–p, r). A general Tepeu date, perhaps specifically Tepeu 2–3, is likely for the Rio Frio E specimens.

Jar, wide mouth, everted lip (1)

Illustration: Fig. 10k

Form: Subglobular body with round, medium-thick sides curving inward to low, outcurving neck. Everted lip is slightly pointed; base is convex.

Size: Maximum body diameter 23.1 cm., rim 16.4 cm., orifice 11.7 cm.; height 18.6 cm.; thickness 0.7 cm.

Surface: Interior fully slipped (see remarks) with moderate burnish extending only to just below neck-body junction; surface rough, with some finger-marks visible on sides and base. Exterior slipped, with high burnish on base, lessening on sides (or discoloured); irregular, with pitting and stains in some areas. Burnishing marks on exterior are generally clearly visible, and are lateral.

Temper: Calcite, grain size not determinable (whole vessel).

Paste: Apparently uniformly buff-orange.

Colour: Orange (Tawny)

Decoration: none

Comparative material: Temporal distinctions in jar form and surface are not yet sufficiently clear (if in fact they exist) to make intersite comparisons useful; the surface of this vessel resembles in degree of burnish and presence of burnishing marks some of the other red wares from Rio Frio E.

Remarks: This vessel should, on the basis of the presence of interior slip, be considered a bowl, but its shape is clearly within the jar range, and the absence of burnish below the neck area indicates that treatment in manufacture was not unlike that accorded jars with unslipped interiors. The presence of interior slip may indicate that this vessel saw a use different from that of standard jars. From the alcove.

Jar, small, slightly everted lip (1)

Illustration: Fig. 10m

Form: Globular body, with round medium-thick to thick sides curving inward to low vertical neck. Lip slightly everted, pointed; base flattened at centre.

Size: Maximum body diameter 14.4 cm., rim 9.1 cm., orifice 7.4 cm.; height overall 13.1 cm., neck height 2.55 cm.; thickness 0.55 cm. at rim, increasing to 0.9 cm. at base.

Surface: Interior slipped in neck area only, with very slight burnish on extremely rough surface. Exterior, except flattened area of base, slipped with moderate to high burnish. Extensively pitted, possibly due to burning out of temper, and partly eroded, with staining in many areas and discolouration due to overfiring on one side. Neck surface rough, with traces of shaping marks visible.

Temper: Calcite, very small to small grains.

Paste: Apparently uniform buff-orange throughout (whole vessel).

Colour: Orange (Cinnamon-Rufous)

Decoration: none

Comparative material: As for preceding category, intersite comparisons are not profitable. From the alcove, and hence perhaps of Tepeu 2 date.

Jar, slightly restricted orifice or barrel-shape (rim 2, body 10)

Illustration: Fig. 10n

Form: Round, thin to medium-thick sides, curving inward slightly to markedly in upper body to produce restricted orifice. Lip slightly pointed; base flat to somewhat concave.

Size: Maximum body diameter (three specimens only) 12.2–16.8 cm., orifice diameter *c.* 15.0 cm.; height, n.d.; thickness 0.3–0.75 cm., av. 0.48 cm.

Surface: Interior unslipped, or with slip extending only slightly below lip (two specimens only); exterior slipped with moderate to high burnish, with occasional crazing (two), base unslipped.

Temper: Tuff (eight); calcite, grain size minute to medium, with very small amounts of temper visible in six specimens (four).

Colour: Red (English Red [3], Cinnamon [2], Vinaceous-Rufous [1]), Brown (Russet [1], Sepia [1], Sanford's Brown [1], Snuff Brown [1]), Orange (Cinnamon-Rufous [1]), Black 1.

Decoration: Preslip vertical groove-incising producing fluted effect (one); gadrooning (three); two preslip groove-incised encircling lines bordering pairs of short lateral postfire plain incised lines (one); also plain (seven).

Comparative material: Not reported from other Rio Frio caves, those of the Chiquibul, nor Barton Ramie, though a fluted brownware specimen of somewhat different shape is reported from Baking Pot (Bullard and Bullard, 1965, fig. 11b). Barrel-shaped monochrome jars or vases occur in Benque Viejo IIIb, but are generally somewhat more squat in profile than the Rio Frio E specimens, especially that illustrated (Thompson, 1942, fig. 20). Apart from Pabellon or Sahcaba Modelled-carved (San José V) vases, the barrel shape does not appear to occur in monochrome at San José (Thompson, 1939, figs. 83b and 84), while at Uaxactun the shape is found in redware (Tinaja Red) and, with the addition of a pedestal base, in blackware (Cubeta Incised), both of Tepeu 3 times (Smith, 1955, figs. 42b8 and 50a22, 23; Smith and Gifford, 1966, pp. 143 and 145). A Tepeu 2–3 date seems probable for the Rio Frio E specimens.

Jar or Bottle, basal angle, tapering to extremely restricted orifice (1)

Illustration: Fig. 11a

Form: Lower body round-sided, curving up from base to basal angle; upper body tapers sharply inward from basal angle to form nearly-tubular elongated neck. Sides thin; lip slightly pointed, base apparently flat to slightly convex.

Size: Maximum body diameter 22.7 cm., orifice diameter 4.2 cm.; height 24.8 cm.; thickness 0.4 cm.

Surface: Interior unslipped; exterior apparently entirely slipped, including all of base, though slip is thin in this area. High burnish, with extensive pocking in some areas. Firing clouds at and below basal angle.

Temper: Calcite, with very small amounts of quartz; grains generally small.

Paste: Moderately hard, with generally angular fracture; uniformly orange.

Colour: Red (English Red).

Decoration: Preslip groove-incised pairs of lines forming semi-circles extending around perimeter above basal angle; three similar encircling lines approximately mid-way between basal angle and orifice.

Comparative material: Not reported from other Rio Frio caves or those of the Chiquibul. Vessels of somewhat similar shape, but with pedestal base, occur at Baking Pot (Bullard and Bullard, 1965, fig. 11c) and at Barton Ramie, in undecorated Macal Orange-red: Macal Variety of the Tiger Run ceramic complex (A.D. 600–700) and in the complex carved

Puhui-zibal Composite: Puhui-zibal Variety of the Spanish Lookout complex of Late Classic times (Willey *et al.*, 1965, p. 365 and figs. 222, 223, 242–244). An even more closely similar shape, though again with pedestal base, is known from San José, dating from late IV and Phase V (Thompson, 1939, pp. 141–142, fig. 79a and plate 21e). The closer resemblance of the Rio Frio E specimen to those from San José suggests a Tepeu 3 date for the vessel.

UNSLIPPED WARE (26 sherds)

Bowl, round-side (1)

Illustration: Fig. 11b

Form: Round, thick sides; lip irregular; base slightly flattened at centre. Formed from bottom of jar or other vessel, roughly reshaped around rim.

Size: Diameter 13.4 cm.; height 5.5 cm.; thickness 0.95–1.05 cm.

Surface: Interior well-smoothed, with slight pitting and extensive firing cloud or mineral stain; exterior very poorly smoothed, with coils only partly obliterated in many areas. Pitted, with extensive firing cloud.

Temper: Calcite, small to medium grains.

Paste: Apparently soft, with crumbly fracture; uniform buff-orange throughout.

Colour: Orange (Vinaceous-Cinnamon)

Decoration: none

Comparative material: Apart from the fact that bowls reworked from larger vessels occur in various sites in the Chiquibul and surrounding areas, no comparative data can be provided for a vessel of this sort.

Bowl, round-side, incurving rim (16)

Illustration: Fig. 11c–j

Form: Round, medium-thick to thick sides, curving inward at rim to produce slightly restricted orifice. Lip frequently thickened or ridged on interior, forming a flat, insloping rim-top, with pointed inner edge. Base generally convex; one specimen with an annular base, represented by attachment ring only.

Size: Diameter (five specimens only) 18.1–35.0 cm., orifice diameter 15.0–21.8 cm.; height 6.9–14.0 cm.; thickness 0.65–1.1 cm., av. 0.87 cm.

Surface: Interior generally well-smoothed but occasionally extremely irregular; exterior occasionally slightly burnished and in most cases

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Fig. 11 Monochrome slipped jar-bottle and unslipped bowls and jars

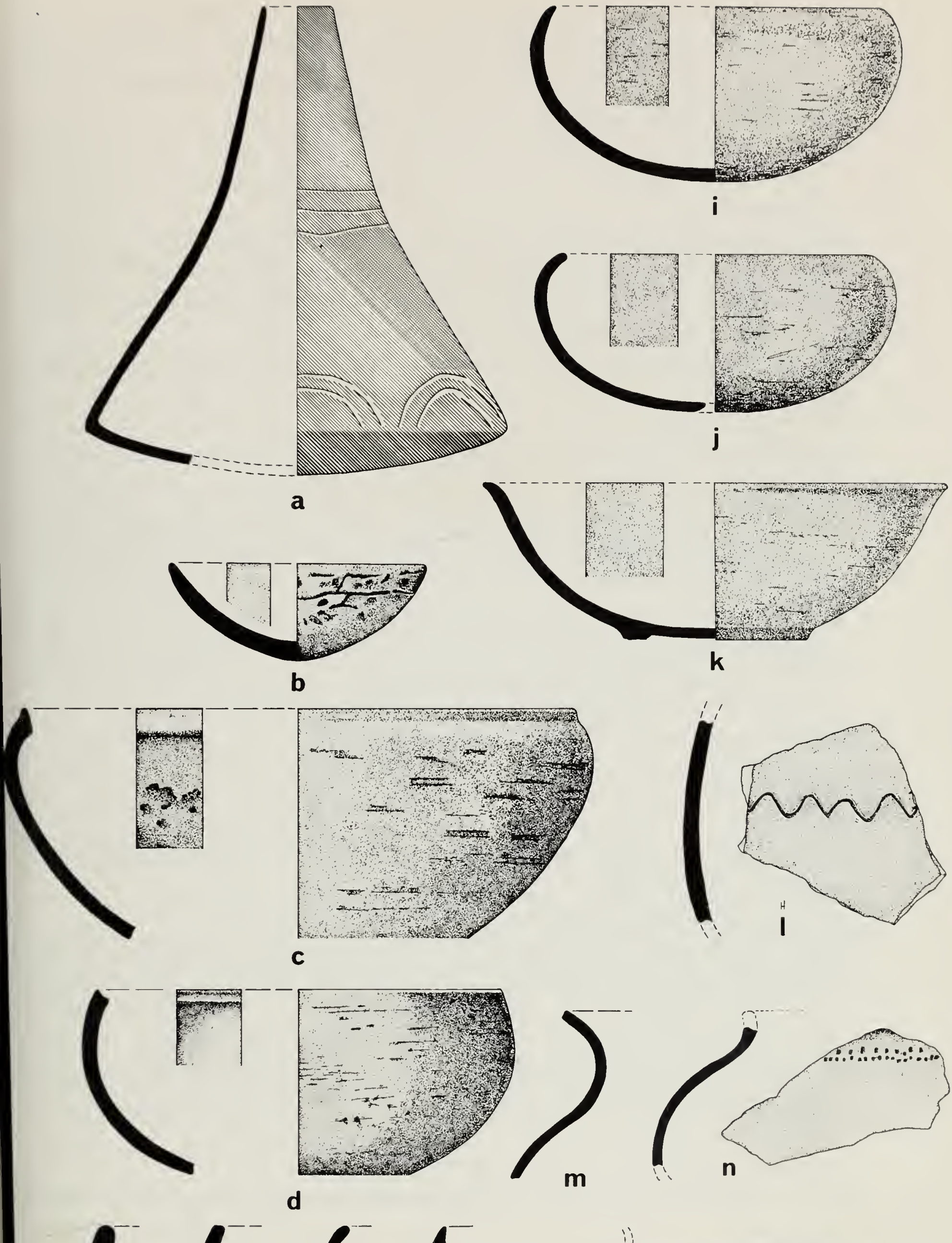
a: jar or bottle, English Red. Preslip groove-incised semicircles at base, similar encircling lines on neck.

b: bowl, round-side, orange.

c–j: bowls, round-side, incurving rim; orange, greyish buff, and black.

k: bowl, round-side, everted rim, orange. "Kill-hole" in base.

l–o: jars, wide mouth, everted rim, orange. Encircling wavy line (*l*), tool impressions (*n*), or stamped designs (*o*).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moderately smooth, though highly irregular in some specimens. Firing clouds occur on two specimens, but several others are blackened by postfire burning. Pitting and erosion of surface occur in all specimens to varying degrees.

Temper: Calcite, very small to medium grains (14), with admixture of white angular particles (limestone?) in two specimens. Tuff-calcite mixture (two).

Paste: Generally soft, with crumbly fracture, to moderately hard with partly angular fracture in three specimens. Colour ranges from uniform orange to buff-orange, greyish-buff, uniform black, and black to grey core with orange-red surfaces.

Colour: Light Pinkish Cinnamon, Buff (specific colour not determinable), grey, and fire-darkened.

Decoration: none

Comparative material: Incurving-rim round-side bowls appear to be a generally Late Classic form, but specific comparisons for most of the Rio Frio E specimens are not possible. The lip shape of one vessel (Fig. 11d) is nearly duplicated by a slipped, stamp-decorated bowl from Actun Balam (Pendergast, 1969, fig. 27e12), and by materials from Benque Viejo, principally of B.V. III date, among which there is also the channelled lip marking another Rio Frio E vessel (Thompson, 1942, fig. 26). The Benque Viejo specimens are, however, slipped, but probably provide the best basis for dating of the Rio Frio E vessels.

Remarks: One vessel (Fig. 11j) from the alcove.

Bowl, round-side, everted rim (1)

Illustration: Fig. 11k

Form: Round, medium-thick sides, curving out sharply at rim. Lip pointed; annular base.

Size: Diameter 25.8 cm.; height 8.8 cm.; thickness 0.7 cm.

Surface: Interior, though unslipped, is burnished over upper sides and rim. Exterior also irregularly burnished over sides, not extending to base. Both surfaces undulating, with some smoothing marks visible. Lateral burnishing streaks occur especially on the exterior, which is also streaked vertically with grey, and extensively stained. Interior is stained, and like the exterior it exhibits colour variation suggesting poor firing.

Temper: Calcite, very small to small grains.

Paste: Uniformly dark grey throughout; apparently friable, with crumbly fracture.

Colour: Orange (Snuff Brown)

Decoration: none

Comparative material: Not reported from other Rio Frio caves or those of the Chiquibul, and not directly parallelled in other collections. The shape may have affinities with slipped flaring-side vessels of Tepeu 1–2 times, and its associations in Rio Frio E perhaps support this temporal placement.

Remarks: Apparent "kill-hole" in centre at base; from the alcove.

Jar, wide mouth, everted rim (6)

Illustration: Fig. 11l–o, 12a

Form: Presumably globular to subglobular body with medium-high neck, moderately to sharply everted rim. Sides medium-thick to thick; base form unknown, probably including both convex and flattened shapes. Lip rounded to slightly flattened.

Size: Diameter, n.d.; height, n.d.; thickness 0.55–1.1 cm.

Surface: Interior poorly to moderately well smoothed; exterior occasionally partly burnished and generally well-smoothed. Firing clouds present. Burnish is mainly restricted to rim area.

Temper: Calcite, with occasional to frequent opaque angular fragments (limestone?), grain size small to medium.

Paste: Generally soft, with crumbly fracture, but moderately hard with fairly angular fracture in one specimen. Colours: uniform orange to buff-orange, uniform greyish-black to black, and black core with orange surfaces.

Colour: Burnished specimens Orange (Cinnamon-Rufous) or Red (Rufous); unburnished are orange (Vinaceous Cinnamon), with one grey sherd.

Decoration: Shoulder area decorated with band of stamped impressions producing multiple reverse-S pattern; two encircling lines of roughly triangular tool-gouges; encircling wavy line; encircling row of groups of three tool impressions in triangular pattern; also plain.

Comparative material: Jars with stamped decoration are known from Chikin Ak Tun (Mason, 1928, fig. 4), in slipped monochrome from Actun Balam (Pendergast, 1969, pp. 29–30, fig. 9c–f), and from Eduardo Quiroz (Pendergast, Occasional Paper 21, in press). Unslipped (?) specimens are reported from Lubaantun (Joyce, 1926, plate XXVI, 2), and from the Mountain Cow district and Poptun, Guatemala (Kidder, 1954, p. 12, fig. 7). Stratigraphic position of stamped vessels, principally bowls, in Eduardo Quiroz Cave suggests that they date from near the end of the use of the site, probably in late Tepeu 2 and Tepeu 3 times.

Remarks: Sherd count is not significant, as most of the unslipped jar sherds recovered in excavation were not removed from the cave, and only rim sherds showing a fairly extensive section, or sherds with decoration, were included in the total here.

Jar, restricted orifice or barrel-shape (1)

Illustration: Fig. 12c

Form: Rounded, medium-thick sides, apparently curving inward toward top to produce restricted orifice; rim and lip form unknown, base flat. Broken top roughed off to form a sort of bowl.

Size: Diameter 15.8 cm.; height at present 8.2 cm. (original height unknown); thickness 0.7 cm.

Surface: Interior well-smoothed, mineral stained; exterior well-smoothed, with slight burnish in some areas, and blackened. Pitting and erosion occur on lower sides and base.

Temper: Calcite, very small to small grains.

Paste: Soft, with crumbly fracture; uniform black throughout.

Colour: Probably originally orange; firing clouds and postfire burning or mineral stain obscure colour.

Decoration: Four pairs of groove-incised vertical lines from base to rim(?), equally spaced around body.

Comparative material: Probably of same date as slipped barrel-shaped jars (see above); decoration is not sufficiently distinctive to permit direct intersite comparisons.

Remarks: From the alcove.

Censer (incensario), cylindrical (4 fragments, probably from one vessel)

Illustration: Fig. 12b, d–f

Form: Cylindrical, with apparently vertical, thick sides. Pedestal base, with sides curving outward toward bottom. Top possibly rounded, with centre vent. Probable cover, with human-face effigy vent at centre, is probably for the same vessel. Remainder of form unknown.

Size: Diameter at base of pedestal *c.* 20.1 cm.; height, n.d.; thickness 0.9–1.25 cm. (body), 0.6 cm. (lid).

Surface: Incompletely smoothed, with coil lines clearly visible on interior of cylinder, but obliterated on interior of pedestal. Interior of apparent upper portion blackened, as is bottom of lid fragment, as well as interior of vent.

Temper: Calcite, medium to large grains, plus miscellaneous gravel.

Paste: Very friable, with crumbly fracture. Uniformly orange throughout.

Colour: Buff-orange (partly stained and darkened).

Decoration: Lid(?) has appliqué knobs on upper surface, and point-topped human effigy vent with slit eyes and appliqué eyebrows, plus an element (missing) above brows. Body top is decorated with appliqué bosses on upper portion and at junction with sides, where there are also appliqué spikes. Body has appliqué human legs (and probably arms), plus bosses and spike probably representing a necklace. At junction of body and pedestal base there is an appliqué encircling band with attached bosses, while dependent from the band are appliqué dentate decorations, and a similar band and decoration occur at the bottom of the pedestal. On the pedestal body is an appliqué face (an owl?), surrounded by a wide groove. Large vertical flanges appear to have been placed at each side of the pedestal, extending up onto the censer body.

Comparative material: Three fragments of probably similar incensarios from Rio Frio C are illustrated by Mason (1928, fig. 28), but the form is seemingly absent from Chiquibul caves, perhaps replaced by less

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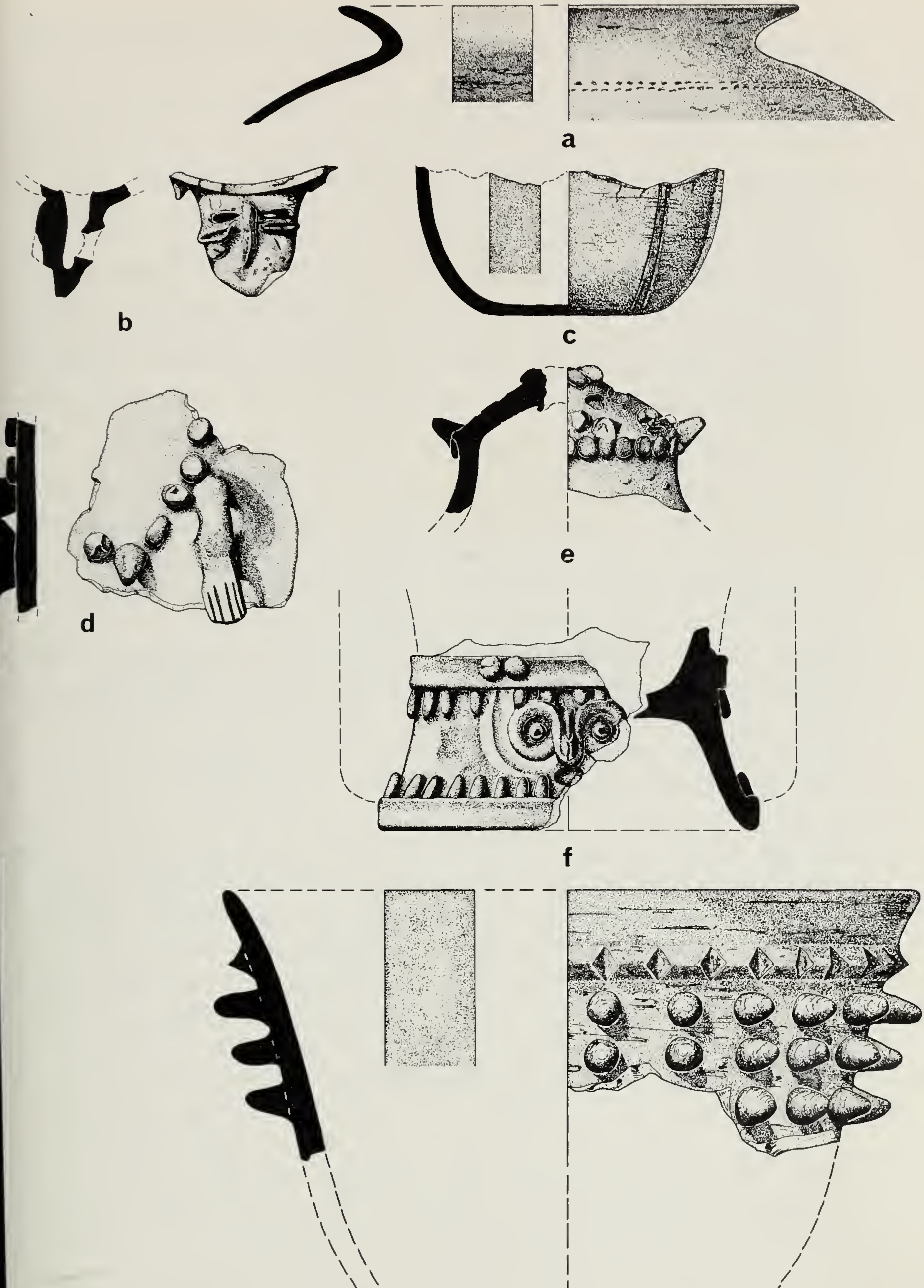
Fig. 12 Monochrome unslipped jars and incensarios (censers).

a: jar, wide mouth, everted rim, orange. Encircling band of tool impressions.

b,d,e,f: fragments of cylindrical incensario (censer) with appliqué decoration. *b* is probably lid handle; *e* may be upper portion of body; *d* is part of lower body; *f* is pedestal base. Buff-orange.

c: jar, restricted orifice or barrel-shape, orange. Four pairs of groove-incised lines extend from base to rim.

g: incensario (censer), orange. Reconstruction based on data from Rio Frio C.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extensively decorated cylinders with complex loop-handled "piepan" covers (Pendergast, 1969, pp. 38–39). Though not reported from Barton Ramie, incensarios resembling generally the Rio Frio E fragments are illustrated by Thompson (1942, figs. 8, 9) from Benque Viejo IIIa to IV contexts. Included among the fragments from Benque Viejo is a lid (fig. 9a) which resembles that from Rio Frio E rather closely in some respects. Incensarios of this form are common in the Benque Viejo area as well, and the closest resemblance to the Rio Frio E fragments occurs in two fragmentary specimens from a small site near Water Hole, about nine kilometres south of Benque Viejo, which unfortunately were stolen from the Archaeological Commissioner's quarters following their collection in 1964. A middle to terminal Late Classic date is likely for the Rio Frio E fragments.

Censer (incensario), round-side (1)

Illustration: Fig. 12g

Form: Rounded to somewhat outflaring, thick sides; lip rounded; base very probably of outcurving-side pedestal form.

Size: Diameter (estimated) 40 cm.; height probably approximately 33.5 cm.; thickness (not including decoration) 1.1 cm.

Surface: Interior well smoothed, with some firing (or possibly postfire) discolouration. Exterior moderately well smoothed, darkened in some areas.

Temper: Calcite, small to medium grains.

Paste: Soft, with crumbly fracture; deep orange throughout.

Colour: Orange (Vinaceous-Cinnamon)

Decoration: Large, sharp-edged appliqué fillet or ridge below rim, with deep vertical cut notches; one row of large appliqué spikes encircling body with two lines of six spikes, perhaps in opposing groups, below, probably bordered at the bottom by a ridge similar to that near the rim.

Comparative material: Mason (1928, fig. 30) illustrates a restored incensario, one of two apparently similar specimens from Cave C, which is identical with the cave E fragments. It is on this basis that the presence of a lower ridge and a pedestal base is suggested for the Cave E specimen. The same form apparently occurs at Tzimin Kax, in a Holmul V (Tepeu 1) context (Thompson, 1931, p. 257), representing the only clear instance of ties between this site and the Rio Frio caves. A vessel of closely similar shape occurs among Tepeu 3 incensarios at Uaxactun (Miseria Appliquéd; Smith, 1955, pp. 101–102, fig. 13m; Smith and Gifford, 1966, p. 133), differing only in the bead rim and the absence of encircling notched ridges. I am inclined on stylistic grounds to accept the Tepeu 3 date for the Rio Frio specimens, though the Tzimin Kax occurrence may indicate that incensarios of this form had a surprisingly long history.

Miscellaneous artifacts

No objects are reported from Anderson's excavations other than the masses of pottery, but it is not clear whether this is an accurate reflection of the nature of the entire deposit; if so, it suggests a pattern of use of Rio Frio E differing from that reflected in such caves as Actun Balam and Eduardo Quiroz. Unfortunately, the 44 objects recovered from one of the vessels in Ford Young's Alcove can now only be studied through the photographs made by Anderson, with the exception of two pieces which somehow managed to escape hurricane winds and waters and, later, thieving hands. The list which appears below contains much information gleaned from my memory of those pieces which escaped Hurricane Hattie only to succumb to other destructive forces, plus judgements as to dimensions derived from measurement of photographs, which are necessarily approximations. Types of stone can only be guessed at in most cases, and are listed simply for general classification purposes.

Human figure, seated (1) Rather roughly-executed seated figure, legs drawn up to chin, arms bent at elbows with hands resting on knees (Plates 9 and 10). Face is rudimentarily depicted, with no more than hints of forehead, nose, and chin. Resembles in some respects the large stalagmite figure, and its presence in the cave may be somehow related to activities surrounding the stalagmite. Split in two; the two halves were not together in the cache. *Height:* 12 cm.; *Width:* 12 cm.; *Thickness:* 2.7 cm. *Material:* identified by Anderson (1962, p. 331) as slate.

Human head, unperforated (1) Crudely carved head with cap, or at least ridge running across above eyes. Eyes are oval, simply carved outlines without pupils; nose is schematically represented, and mouth is a carved line in a oval raised area. A small tenon at the base may suggest that the object was designed to be set into a socket. On the reverse there is a deep oblong depression. *Height:* 12 cm.; *Width:* 10.2 cm.; *Thickness:* 1.1 cm. *Material:* slightly greenish fine-grained granite. *Comparative material:* There are some stylistic resemblances with a head from a cache at Camp 6 (Thompson, 1931, plate XXXVIII, fig. 2), to which no date is assigned.

Celts (3) One complete specimen, one bit fragment, and one poll end. Some of the polished irregular pieces may also be fragments of this type of artifact, but identification of them is uncertain at best. The poll fragment is round-ended, while the complete specimen, which is unusually long for its width and thickness, appears to have a somewhat flattened end. *Length:* 25.5 cm.; *Width:* (two specimens) 3.0 and 6.0 cm.; *Thickness:* (two specimens) 1.5 and 1.7 cm. *Material:* complete specimen probably amphibole, possibly nephrite; fragments unknown.

Disc (1) Small, somewhat irregular disc with a circle cut in the obverse surface. Apparently unperforated; use unclear. *Diameter:* 3 cm.; *Thickness:* n.d. *Material:* possibly albite.

Ear plug flare (1) Flare is oblong in outline; throat form is unknown. On each of the four edges of the flare is a pair of lines, either sloping inward toward each other or meeting to form a small triangle. *Length:* 2.5 cm.; *Width:* 2.0 cm.; *Thickness:* n.d. *Material:* probably jadeite.

Pendants, carved (3) Included in this category are a single small, well-carved pendant in the form of a stylized full-front human face with earplugs and headdress, a simple "axe-god" pendant, and an oblong object with two encircling lines and additional lines on one edge, perhaps representing a human face in profile. Dimensions are given in order for the three pieces. *Length:* 4.5, 6.0, and 4.6 cm.; *Width:*3.5, 3.7, and 3.9 cm.; *Thickness:* 0.5, 0.4, and 0.6 cm. *Perforation diameter:* n.d., 0.25, and 0.4 cm. *Material:* face is probably jadeite; "axe-god" is greenish fine-grained granite, and the remaining object is probably of this material as well. *Comparative material:* The face pendant is carved in a style indicating an Early Classic date, and resembles forms from the Guatemalan Highlands. The "axe-god" resembles generally an apparently Early Classic specimen from Pomona, British Honduras (Kidder and Ekholm, 1951, fig. 6e). The temporal and spatial distribution of "axe-god" pendants is discussed by Easby (1963), who mentions (p. 103) the Rio Frio E specimen, basing her description on a personal communication from Anderson.

Adornos or pendants, carved (2) A pair of thin crescentic objects with perforations near top and bottom, as well as two punctations near the bottom, carved as opposite human profiles, with lines representing headgear. The form, plus the fact that the objects are a matched pair, may indicate that they were sewn to clothing or otherwise used as attached decorations, rather than as pendants. *Length:* 10.5 cm.; *Width (overall):* 6.0 and 6.5 cm.; *Thickness:* very approximately 0.3 cm. *Material:* possibly albite.

Pendants, regular outline, minor carving (2) One specimen is roughly oblong in outline, but tapering toward the base, with two perforations in the upper edge, passing out through the back; it is strongly concavo-convex in section. The second specimen is a very irregular, highly-polished oblong with a single transverse perforation, decorated with a circle, probably produced with a large hollow drill, on the obverse surface. *Length:* 3.1 and 6.5 cm.; *Width:* 3.6 and 2.7 cm.; *Thickness:* 0.6 and 0.4 cm.; *Perforation diameter:* (first specimen only) 0.25 cm. *Material:* first specimen is greenish fine-grained granite (identical in colour and texture to the "axe-god"); the second is jadeite, of high quality.

Pendants, irregular to oblong (9) Partly shaped to irregular polished pieces with one or more perforations, often near one edge, but occasionally passing laterally through the centre. Included in this category is one piece of irregular outline with five perforations regularly spaced around the perimeter. Dimensions are highly variable. *Material:* fine-grained granite, jadeite, and probably albite.

Irregular polished pieces (21) Pieces of varying sizes and shapes, some perhaps fragments of artifacts, all with moderate to high polish and unperforated. Materials apparently the same as for preceding category.

Summary and Conclusions

The very small amount of excavation in Rio Frio E, coupled with intensive exploration of the chamber, makes it quite clear that the cave was used by the ancient Maya in ways rather different in some respects from those reflected by other cave collections. Apart from the apparent offering recovered from an alcove, the archaeological remains consist entirely of pottery, a body of material which provides some solid and intriguing evidence of relationships between the cave and surface centres, and also some indications of the uses to which the site may have been put. Though percentages of various wares and types in the Rio Frio E collection are meaningless because of the limited nature of the excavation and the structuring of the sample, the quantity of polychrome is clearly higher than those encountered in cave sites of the Chiquibul, a fact which constitutes part of the apparent gulf between sites of the two areas. Of an importance equal to, or greater than, the distinctions between Rio Frio and Chiquibul are the links between Rio Frio E and sites of the Belize River Valley, particularly Xunantunich (Benque Viejo). A check of the pottery descriptions discloses at least 16 of the 31 categories in which cross-ties ranging from general similarity to absolute identity are recognizable between vessels from Rio Frio E and those of Xunantunich or Barton Ramie; in almost all cases, a middle Late Classic (Tepeu 2) date is indicated. In contrast, ties southward with the Chiquibul are uncommon, and almost universally restricted to general similarities, probably involving middle or terminal Late Classic types; the sole exception is unit-stamp decoration, an apparent characteristic of the Chiquibul sites, which occurs on one unslipped jar at Rio Frio E, very probably of Tepeu 3 date. Ties beyond the Xunantunich/Belize Valley area to the north and east are expectably minimal or of a rather general nature, except for a redware bottle which may be evidence of Tepeu 3 links between Rio Frio E and San José. In sum, almost all of the ceramic material from Rio Frio E points to a middle and late Late Classic date for the deposition of the pottery, and indicates that during this period the Maya of the Rio Frio area were closely tied to the occupants of sites 16 to 25 km. to the north in the Belize River Valley, having closest affinities with the major centre of Xunantunich.

Links between Xunantunich and Rio Frio E can most probably be explained partly in terms of the strength of the former settlement during the Late Classic, when it probably reached its height as a major centre, with influence extending over areas beyond the immediate vicinity of the site. An equally important factor is the physiographic relationship already alluded to, involving a reasonably direct link between Xunantunich and Rio Frio E via the Eastern Branch of the Belize River. Though a traveller in the Rio Frio area tends to think of the Belize Valley as remote and not directly linked to the mountainous uplands, he quickly learns from a map that his conception of the area is formed by existing roads, rather than natural ancient travel routes, of which the Eastern Branch was probably the most important as regards flow of materials and ideas southward from Xunantunich. As noted earlier, the river may have played an additional role in the life of the Rio Frio area, for by serving, under the name of the Macal, as the division between the Vaca Plateau/Mountain Pine Ridge zone to the north and the Chiquibul to the south it seems to have marked a fairly formidable cultural boundary, at least in Late Classic times. As an outlying manifestation of Xunantunich/Belize Valley ceramic developments, Rio Frio E can be included within the Tepeu Ceramic Sphere (Willey, Culbert and Adams, 1967, p. 310 and fig. 8), which can probably be extended to encompass all of the central and south-central Cayo District down to the Macal River, beyond which there apparently lies a region of rather different ceramic history, perhaps forming part of a separate, yet-undefined ceramic sphere.

The recognition of relationships between Rio Frio E and other sites or areas poses far fewer problems than does an attempt at reconstruction of the history of use of the cave itself. Clues to this aspect of the site lie not so much in the contents of the archaeological deposit as in its general nature and that of the chamber itself, with perhaps the most difficult question raised being that of the relationship between the cave and the pottery it contained. As noted earlier, the pottery seems to have been intentionally piled against one wall of the chamber, as though it had been cleared from the cave floor, but it is really the artificially-levelled appearance of the floor and the absence of sherds in the powdery earth, rather than any specific feature of the pottery pile, which suggests this interpretation. The apparently high proportion of polychrome may identify the mass as a ceremonial dump such as that noted by Thompson (1959) at Pusilha in the southern Toledo District of British Honduras (see also Joyce *et al.*, 1928, pp. 343–346, plate XXXIV), but there is of course no way of determining whether the material was originally spread over the chamber floor, or dumped as found. The large numbers of olla sherds, many in stacks, appear to parallel the situation encountered in Eduardo Quiroz (Pendergast, 1964, pp. 123–125), suggesting collection of virgin water or *zuhuy ha* as described by Thompson (1959, pp. 124–127), but the absence of large numbers of stalactites or other evidence of water drip from the ceiling argues against this sort of activity having occurred in the cave. The vessels, including polychrome specimens, may either have been brought to the cave as sherds or broken shortly after their introduction into the chamber, and hence perhaps do not reflect any long-term ceremonial activity within the cave itself.

Of paramount importance in an assessment of the activities in Rio Frio E is the large stalagmite, which seems to have been the central focus in the chamber. Worship of idols in caves was a common Maya practice (Thompson, 1959, 122–124), and is almost certainly in evidence in Rio Frio E, though the deity supposedly represented by the stalagmite cannot be identified with any certainty. The resemblance between the stalagmite figure and Thompson's Glyph 227 may be significant, as the glyph is associated in the Dresden Codex (68a) with a picture of two Chacs (Thompson, 1962, p. 60). By one or two precarious extensions of logic the stalagmite might be equated with Chac, though a dry cave is a most unlikely residence for a rain god. Whatever deity may be represented, though, the principal problem lies in the relationship between the figure and the pottery pile; was the pottery once scattered over the cave floor, and swept up when the stalagmite was moved into position at the rear of the chamber and worship of it begun, was the stalagmite in its present position from the outset of use of the cave and the pottery dumped only near the end of that use, or were worship of the figure and deposition of the pottery simultaneous events in the Late Classic? The material recovered from the depression at the base of the figure's "head" provides no answer, as only olla body sherds were found, and even these could have been placed on the figure long after deposition of the pottery pile in the cave. The radiocarbon date for the alcove material indicates that at least minor ceremonial activity occurred in recesses of the cave at about A.D. 830, a time no more than very slightly later than the apparent date of most of the pottery, and the seeming relationship between alcove material and the pottery pile may suggest that all ceremonial activity in the chamber was of Late Classic date, but this is far from certain. A final element of possible significance to an assessment of the Rio Frio E material is the indication of largely or exclusively Late Classic use of Chiquibul caves (Pendergast, 1969 and Occasional Paper 21, in press), a fact which, coupled with data from other parts of the central lowlands, may point to a restricted period of ancient Maya ceremonial use of caves in general, including Rio Frio E. As with all excavations, even those in areas much better understood than the Rio Frio, the number of questions left half-answered or unanswered nearly balances the amount of solid data recovered, but nonetheless Anderson's work of a decade ago has provided some valuable insights into the prehistory of a little-known part of the eastern central lowlands, hopefully a step toward filling a rather large gap in our knowledge of the ancient Maya.

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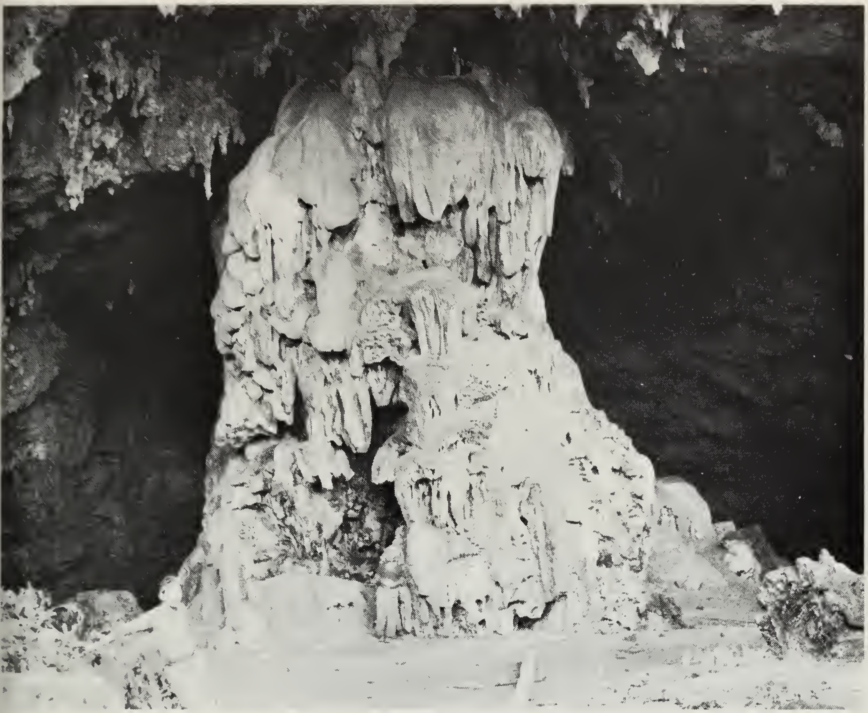
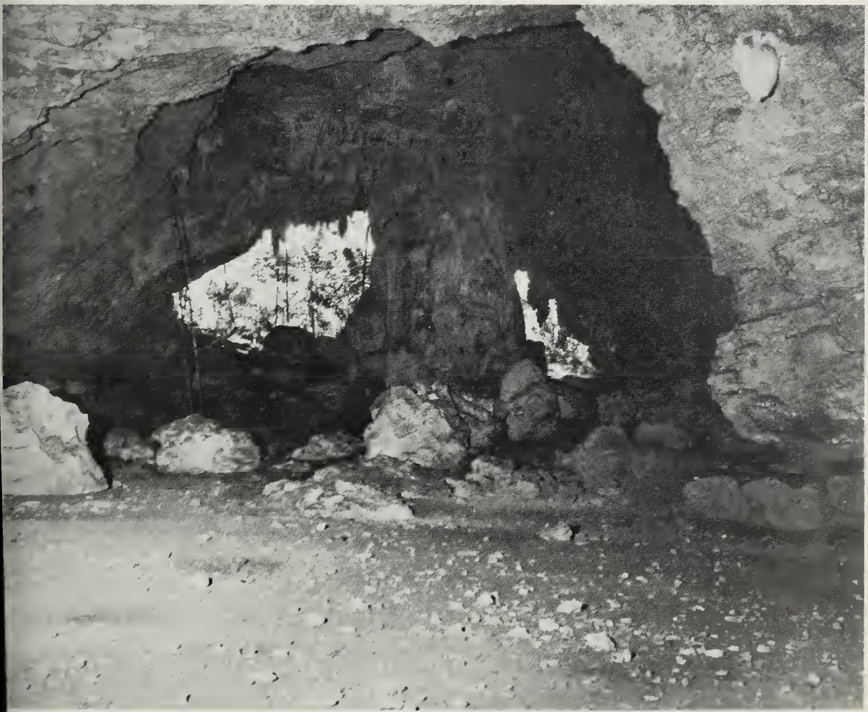


Plate 1 *The entrance to the cave. Note the human figure at the base of the giant column.*



late 2 *The cave entrance and southern portion of the chamber; note the absence of sherds or other archaeological material on the level chamber floor.*

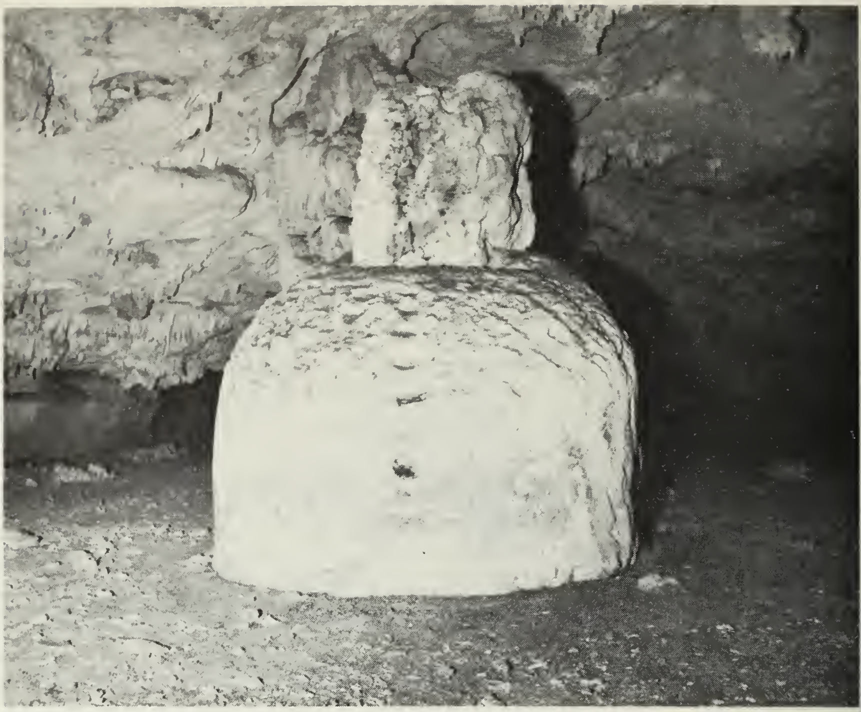


Plate 3 *The stalagmite figure at the rear of the main chamber, seen from the south (entrance) side. Height 275 cm. Note the series of depressions at the front midline.*

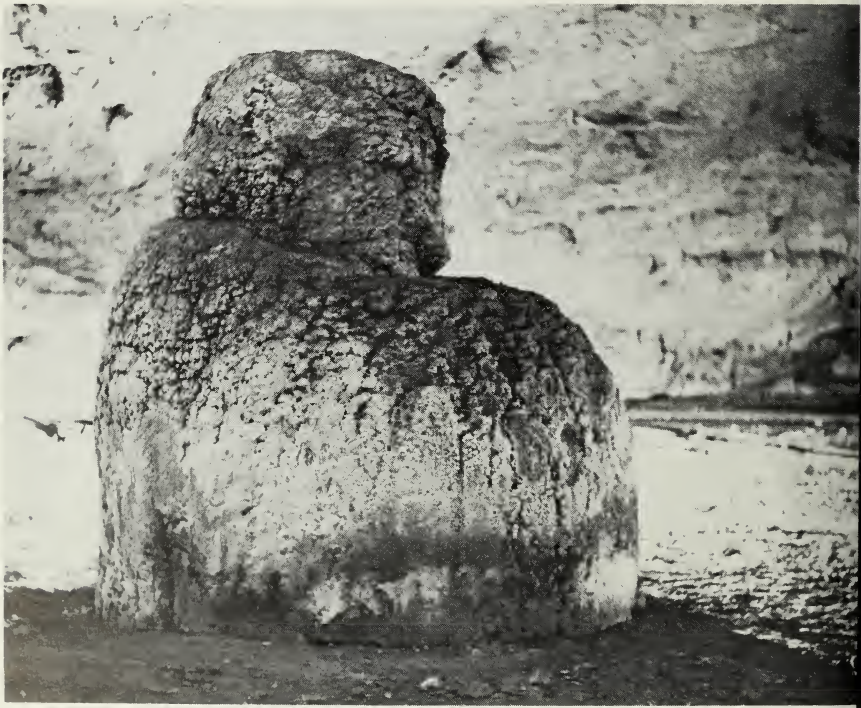


Plate 4 *The stalagmite figure, seen from the west side.*

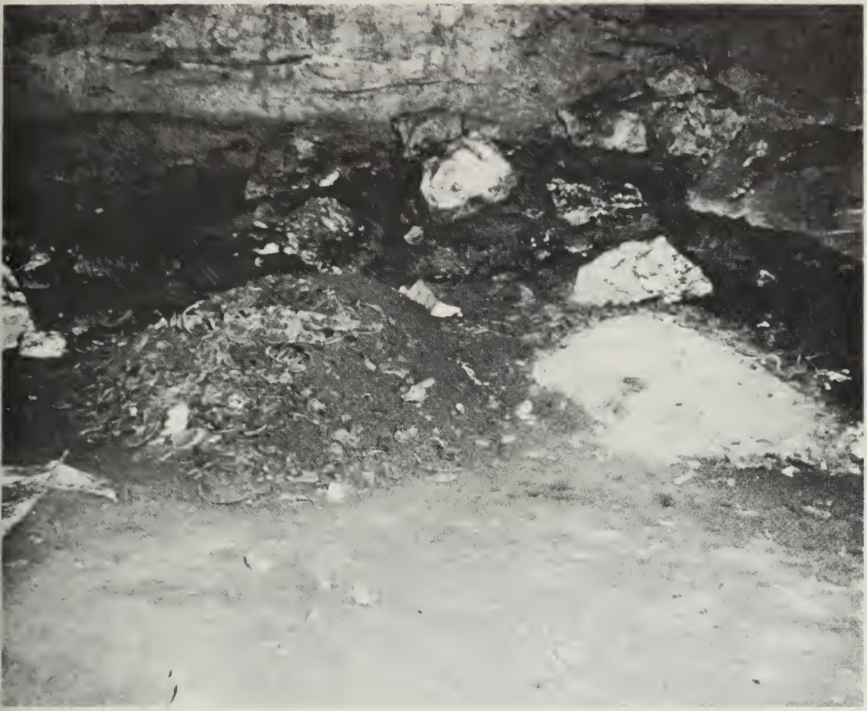
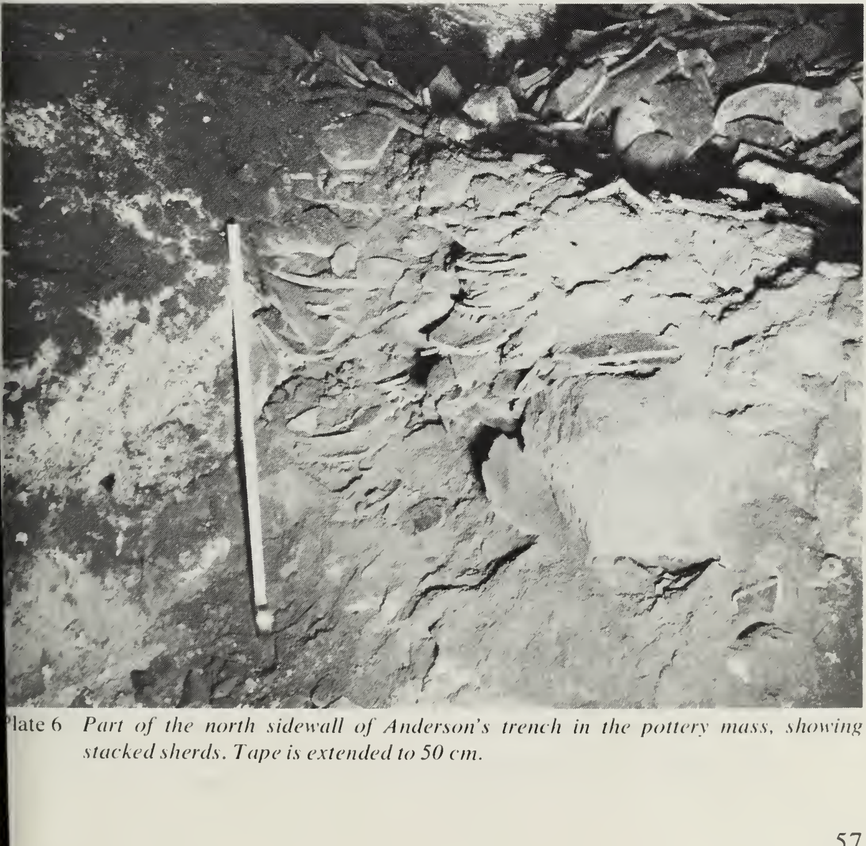


Plate 5 *The area of the pottery mass against the west wall of the cave, showing discarded olla sherds from Anderson's excavations. Photo by the author, 1961.*



late 6 *Part of the north sidewall of Anderson's trench in the pottery mass, showing stacked sherds. Tape is extended to 50 cm.*

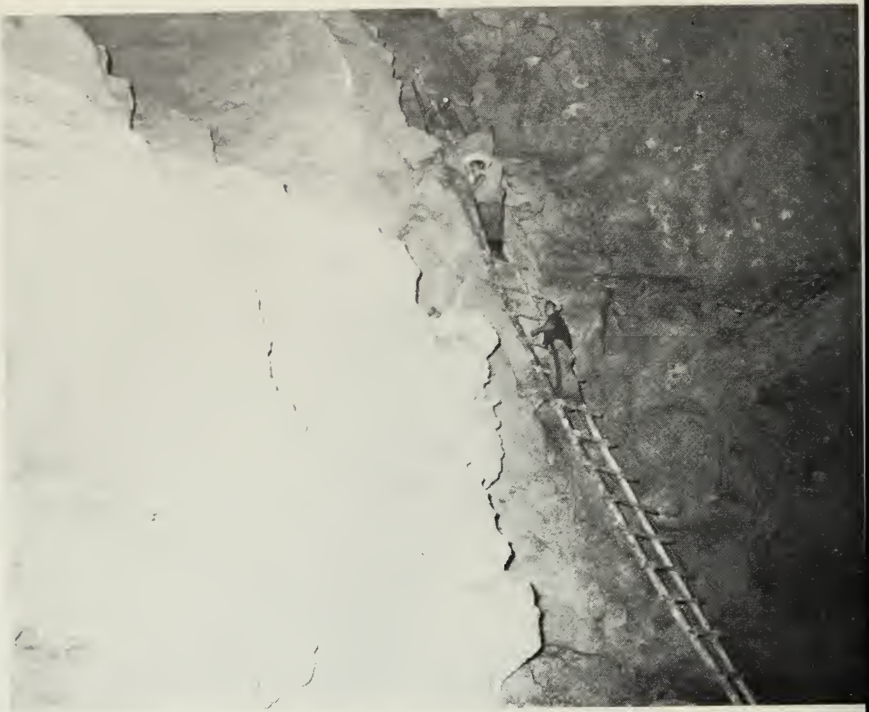


Plate 7 *Maya workers climbing a bush ladder to reach one of the alcoves near the cave ceiling.*

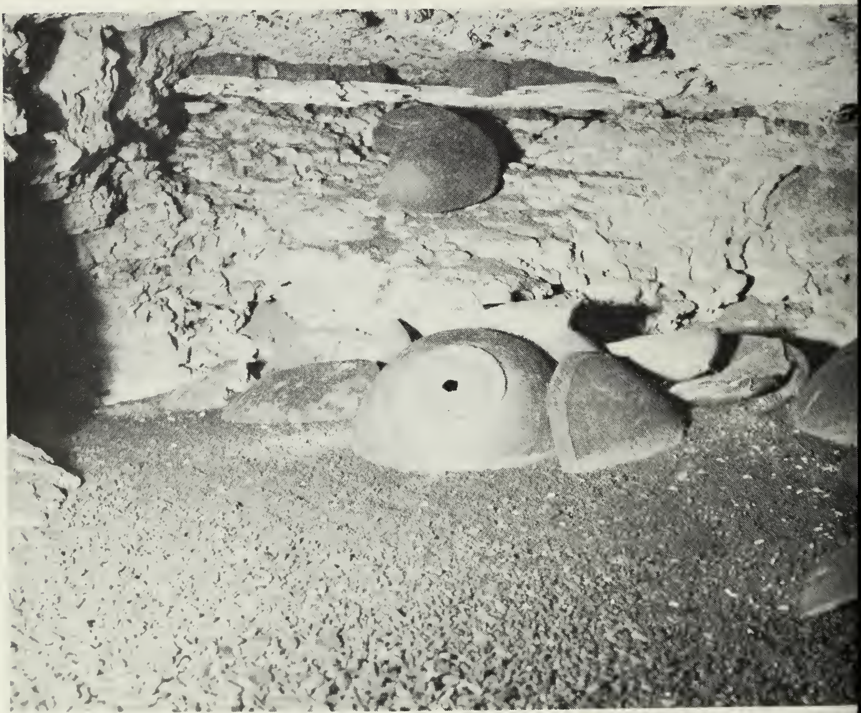


Plate 8 *The vessels in Ford Young's Alcove, as found. The jar immediately behind th large round-side bowl with the apparent "kill-hole" in the base contained th objects shown in plates 9 and 10. Diameter of the "killed" bowl, 25.8 cm.*

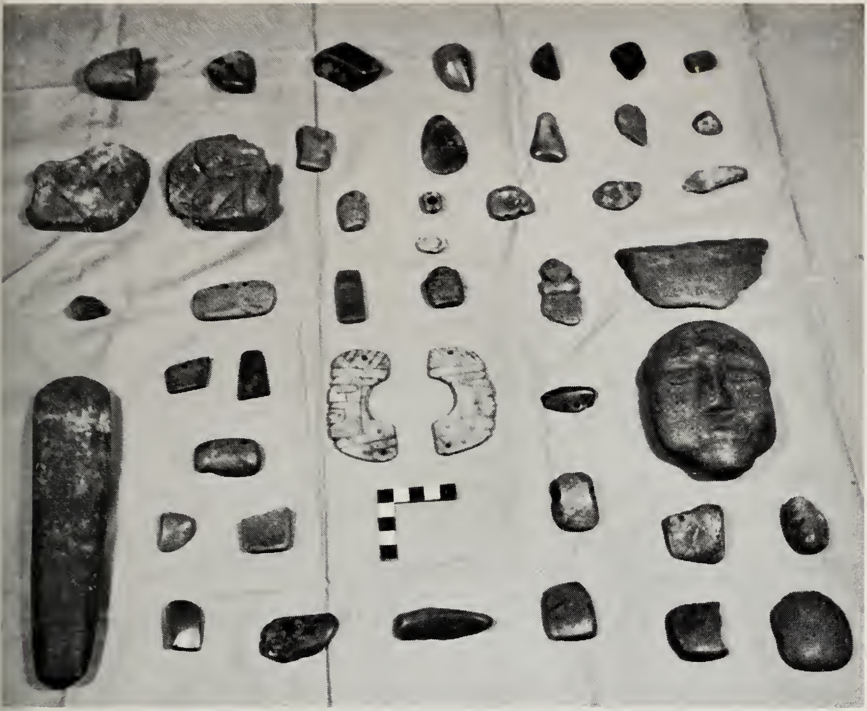
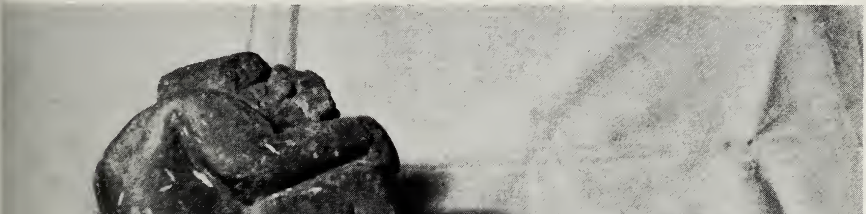


Plate 9 *Contents of the cache in Ford Young's Alcove. The two halves of the split seated figurine had not been joined when this photograph was taken.*



late 10 *Close-up view of the seated figurine and the carved pendant from the alcove cache.*

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